The Psychometric Assessment of Avoidance:

An investigation of two measures of avoidant coping

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by

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Abstract

The present study examined the psychometric properties of two relatively new measures of avoidant coping, the Young-Rygh Avoidance Inventory (YRAI; Young & Rygh, 1994) and the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2002). A student sample ($N = 198$; 83 males, 115 females) completed the Young-Rygh Avoidance Inventory, Acceptance and Action Questionnaire, Coping Responses Inventory (Moos, 1993), COPE (Carver, Scheier, & Weintraub, 1989), Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988), and Paulhus Deception Scales (Paulhus, 1984). A subset of this sample ($N = 93$; 20 males, 73 females) completed these measures a second time, an average of 34 days after the first administration. These participants also completed a brief behavioural memory task of avoidance. The YRAI and the AAQ displayed adequate test-retest reliability ($r = .89$ and $r = .91$ respectively), moderate internal consistency (.78 and .76 respectively), and correlated in expected directions with another measure of avoidant coping and a measure of negative affect. Prior research (Myers & Brewin, 1994) suggested that avoidant coping was associated with impaired recall of negative memories, and with socially desirable responding, however the YRAI and the AAQ failed to display this pattern of associations. Additionally, these measures contained a number of poorly performing items, and demonstrated poor face validity. Overall, the YRAI and the AAQ failed to demonstrate their psychometric soundness, construct validity, and utility as measures of avoidant coping. Future studies should seek to more precisely define the construct of avoidant coping, and develop new psychometric instruments based on this definition.

Stress is a fundamental component of human experience. Everyone is familiar with both the term and the experience of stress; however, the definition of this construct has proven to be more elusive. Stress has been referred to an internal physiological or emotional state, as exemplified by the commonly used phrase 'feeling stressed', an external event or 'stressor', or an experience produced by an interaction between person and environment, which involved an external event that produced some level of cognitive appraisal with regard to one's capacity to cope with the demands of the situation (Aldwin, 2000). A recent definition of stress outlined by Aldwin encompassed all of these aspects, and stated that the term stress "*refers to that quality of experience, produced through a person-environment transaction, that, through either overarousal or underarousal, results in psychological or physiological distress*" (Aldwin, 2000: 22).

The study of stress greatly altered the direction of both physical health and health psychology research. The standard medical model of disease, explicated in the late 19th century, held that people became unwell due to external agents. According to this model, individuals experienced influenza, tuberculosis, or developed a cancerous tumour because an environmental toxin or germ had invaded the body. This toxin produced all of the structural and physiological changes that were responsible for all disease symptoms (Aldwin, 2000). Similarly, the field of stress research held that a straightforward, linear relationship existed between distressing life events such as famine, the death of a loved one, or the development of a life-threatening illness, and the experience of stress. This direct, cause-and-effect hypothesis dominated the fields of health and stress research for over 50 years.

Subsequent studies indicated that the standard medical model may be overly simplistic. Studies that analysed the effects of stress revealed individual differences in the way people reacted to both biological and psychological stressors (eg. Weiner, 1977). For example, not everyone exposed to a cold virus developed a cold themselves. Similarly, many people remained healthy despite exposure to physical or psychological stressors (Holahan, Moos, & Shaefer, 1996). Initial explanations held that biological variations between people caused these individual differences. According to the psychosomatic or 'weak organ' theory, stress produced different illnesses based on the inherited physiological weaknesses of the individual (Weiner, 1977). Sources of stress could be physical/environmental, such as natural disasters, environmental pollutants, or criminal victimisation, or sociocultural, such as having little disposable income or living in overcrowded conditions (Aldwin, 2000; Pearlin, 1989). These findings led to the shift away from the medical model, and toward the development of the more empirically supported position that the state of an individual's health was a reflection of the dynamic interaction between physical resilience and environmental forces (Aldwin, 2000; Holahan et al., 1996).

Increased recognition has been afforded to the influence of psychological states on physical resilience. For example, studies have demonstrated the effect of high levels of stress on vulnerability to physical illnesses such as the common cold (Cohen, Tyrrell, & Smith, 1993). Research has also indicated that a lack of supportive interpersonal relationships had a negative impact on rates of physical and psychological dysfunction and mortality (Holahan et al., 1996).

According to Lazarus' cognitive appraisal model (eg. Lazarus & Folkman, 1984), conceptualisations of stress as a purely external event ignored individual variations in the perception or appraisal of stressors. Lazarus held that it was the personal meaning or significance of the stressor, rather than simply its presence, that determined the effect of that stressor on a given individual. For example, an event considered stressful at one point in time by a given individual may not have been considered stressful by another individual, or by the same individual at a different point in time. According to Lazarus, the perception or appraisal of stress depended upon the extent of the demands of the environment or situation, and the amount of resources an individual had to cope with that demand. An individual first recognised that there was a problem, then determined which resources were required to address the problem. By this account, stress resulted from a perceived imbalance between the demands of the situation and one's ability to cope with it. Lazarus' cognitive appraisal model led to a plethora of studies into the processes of appraisal and coping.

A large body of research has demonstrated that coping responses have a central role in mediating the effects of stressful experiences on subjective distress. 'Coping' has been operationalised as the range of possible cognitive or behavioural responses, whether successful or unsuccessful, an individual utilised in an attempt to eliminate, reduce or alter the physical, emotional or psychological demands of stressful life events (Snyder & Dinoff, 1999; Weinman, Wright & Johnston, 1995). Compas, Connor-Smith, Saltzman, Thomsen and Wadsworth (2001) stated that the coping construct included the thoughts and behaviours individuals implemented in stressful situations, regardless of their efficacy in relieving distress. Applying these findings to the domain of clinical psychology, Ball and Lee (2000) hypothesised that

an individual's repertoire of coping strategies mediated the impact of life stresses on the emergence of subsequent psychopathology.

The assessment of coping strategies has been the focus of a large body of research over the last two decades. However, there still exists considerable uncertainty regarding the core constructs that should be included in a thorough consideration of coping, and how these constructs should be measured. The present study aimed to partially address this issue through an examination of the psychometric assessment of coping. In particular, two recently developed psychometric measures of avoidant coping, the Young-Rygh Avoidance Inventory (Young & Rygh, 1994) and the Acceptance and Action Questionnaire (Hayes et al., 1996), were evaluated in terms of their psychometric properties relative to two existing, validated measures of coping, the COPE (Carver, Scheier & Weintraub, 1989) and the Coping Responses Inventory (CRI; Moos, 1993).

The following discussion describes historical classifications of coping strategies, followed by applications of coping to various forms of psychopathology. A detailed consideration of general issues and problems relating to coping assessment is provided, with subsequent examination of the psychometric assessment of coping. The instruments, rationale and hypotheses of the present study are then outlined.

Historical Categorisation of Coping

A number of researchers have attempted to classify coping responses based on features such as their determinants, focus and method.

Dispositional vs. Contextual Theories of Coping

According to Holahan et al. (1996), conceptual theories of coping could be categorised dependent on their assumptions about the principal determinants of coping responses. Dispositional accounts held that stable, intraindividual factors motivated the selection of coping behaviours. In contrast, contextual accounts proposed that transitory, situationally-based factors influenced coping responses. Dispositional theories of coping were developed based on the psychodynamic notion of coping as a defence from unconscious conflicts, while some contextual or situational theories were based on the cognitive viewpoint that cognitive appraisals based on the idiosyncratic demands of a given situation determined one's choice of coping responses. Similarly, behavioural contextual theories held that the selection of coping responses was influenced by the consequences that followed their execution.

Psychodynamic Roots of Coping Research

The basis of psychological coping research lay in the psychodynamic paradigm supported by Sigmund Freud. According to this perspective, coping was a set of defence mechanisms that enabled the individual to manage unconscious sexual and aggressive conflicts. Researchers that followed this paradigm assumed that each individual had relatively stable preferences toward certain defences and coping styles to deal with conflict (Snyder & Dinoff, 1999; Steed, 1998). In his later writings, Freud emphasised the role of defences in altering the perception of stressful events or circumstances generated by an individual's internal environment. According to Freud,

coping strategies protected the ego from internal, instinctual forces. This emphasis on internal environments was closely related to the more recent focus on the role of cognitive appraisal in the coping process (Snyder & Dinoff, 1999).

Investigators who operated outside the psychoanalytic paradigm also described coping in dispositional terms. These investigators have assessed coping styles using interviews and psychometric tests that paralleled trait assessment. That is, these assessment methods have aimed to reveal long-standing, stable patterns of behaviour. One example of this form of assessment is the dispositional version of the COPE questionnaire developed by Carver, Scheier and Weintraub (1989), one of the measures utilised in the present study. This questionnaire asks people to describe their usual responses to stressful situations, thereby focusing on general coping methods rather than situation-specific techniques (Holahan et al., 1996). Another example of a dispositionally-oriented test was the Miller Behavioral Style Scale (Miller, 1987), which assesses individuals' characteristic cognitive style of seeking out or avoiding threat-related information.

Cognitive Appraisal and Coping

Richard Lazarus has been credited with shifting the focus of coping research and theory away from defence mechanisms and towards active cognitive appraisals. Lazarus and Folkman (1984) stated that coping strategies were responses to specific stressful situations rather than established aspects of personality. Conscious, active cognitive appraisals of potential dangers were hypothesised to mediate the link between life stresses and an individual's coping responses. According to Lazarus and

Folkman, an individual first appraised or evaluated a stressful situation as potentially harmful and exceeding their current resources, then selected one or more coping responses in an attempt to reduce or remove the demands of the situation. By this account, coping was an active process that changed over time in response to changing demands and appraisals of the situation. The Coping Responses Inventory (CRI, Moos, 1993) is a widely used psychometric instrument that incorporates Lazarus' cognitive appraisal theory, and assesses an individual's coping response(s) in a specific stressful situation. This measure is utilised in the present study.

Contemporary researchers have generally accepted that both dispositional and contextual factors are involved in the coping process (Holahan et al., 1996). One important difference between these two sets of factors, however, is that in the context of psychometric assessment, participant ratings on dispositional measures tended to be stable across time, while scores on situational measures could and did change over time (Blalock & Joiner, 2000). An important issue raised by Blalock and Joiner was whether situational coping measures could be used to infer an individual's general coping style over time. The present study aimed to address this issue by examining the relationships between participant responses on dispositional and situational coping measures across time. This was achieved through correlation of participant responses on the Young Rygh Avoidance Inventory (Young & Rygh, 1994), the Acceptance and Action Questionnaire (Hayes et al., 1996), and the COPE (Carver et al., 1989; all dispositional coping measures), with responses on the Coping Responses Inventory (Moos, 1993), a situational measure of coping. These measures, and predictions regarding the associations between them, are described in more detail later in this exposition.

Function, Focus, and Method of Coping

Coping researchers have classified coping strategies in terms of three key aspects, function, focus and method. The function of a given coping strategy refers to the purpose of the behaviour or thought process, while the focus of a given strategy refers to an individual's orientation in response to a stressful life event. An individual may orient him or herself towards the problem (approach coping), or may try to escape or evade the problem (avoidance coping). The method of coping refers to whether an individual uses primarily cognitive, behavioural, or both modes to address the problem.

Function of coping. Lazarus and Folkman (1984) outlined two core functions of coping attempts. The first of these is problem-focused, in which the individual attempts to address the immediate problem or concern. Examples of problem-focused coping include seeking out information related to the problem, and taking direct action to solve the problem. The second function of coping attempts is emotion-focused, whereby the individual does not focus on the problem itself, but rather aims to control his or her emotional response(s) to the stressful event or situation (Sarafino, 1998). Examples of emotion-focused coping include venting of emotion and seeking emotional social support (Carver et al., 1989). This categorisation of coping responses should not imply mutual exclusivity – an individual can employ both problem-focused and emotion-focused coping strategies at the same time (Sarafino, 1998).

Focus of coping. The focus of coping refers to an individual's orientation and activity in response to a life stressor, and has typically been divided into approach and

avoidance. An individual may approach the problem and actively attempt to solve it (problem-focused approach coping), or may try to avoid the problem (problem-focused avoidance coping). Similarly, he or she might engage in active attempts to alleviate or manage the emotions brought up by the stressful situation (emotion-focused approach coping), or attempt to avoid the aversive emotional state(s) generated by the stressor (emotion-focused avoidance coping).

Method of coping. The method of coping refers to whether an individual used primarily cognitive means, primarily behavioural means, or some combination of the two to cope with a problem. For example, an individual may try to distract him/herself from studying for an upcoming exam by thinking about something more pleasant (cognitive problem-focused avoidance coping). Another person might try to deal with a weight problem by going for a long walk each day (behavioural problem-focused approach coping). A third individual may try to relieve a deep sense of sadness following the death of a loved one by talking with friends and family (behavioural emotion-focused approach coping). All of these coping strategies, regardless of their likelihood of success, have the goal of reducing or eliminating subjective distress. When subjective distress reaches a level of frequency, intensity and duration such that it interferes with an individual's normal daily functioning, it may be considered pathological, or sufficient to warrant clinical diagnosis and intervention.

Avoidant Coping and Psychopathology

Maladaptive coping strategies have frequently been implicated in the etiology and maintenance of a number of psychological problems. It has been hypothesised

that an individual's repertoire of coping strategies may mediate the impact of stressful life events on the emergence of subsequent psychopathology (Ball & Lee, 2000). Whilst a considerable body of evidence has accumulated concerning maladaptive coping mechanisms in general, recent research has suggested that many forms of psychopathology may be associated with one primary subtype of maladaptive coping, namely avoidant coping.

Behavioural models of the association between avoidant coping and psychopathology. From a behavioural perspective, psychopathology represents learned behaviour resulting from past aversive conditioning experiences. According to Mowrer's (1947) two-factor theory, anxiety-related avoidance responses resulted from two learning processes. Firstly, an individual could learn via classical conditioning to fear a neutral stimulus (the conditioned stimulus) if it was paired with an intrinsically frightening or painful event (the unconditioned stimulus). Secondly, the individual could then learn to reduce this conditioned fear by avoiding or escaping the conditioned stimulus. This avoidance behaviour was reinforced, and was therefore likely to be repeated in the future. This theory has been applied in numerous studies to disorders such as specific phobias, post-traumatic stress disorder and substance use disorder, and has been shown to have useful explanatory power (Davison & Neale, 1998; Levis, 1985; Stasiewicz & Maisto, 1993). Modelling may also account for some forms of avoidant behaviours. A number of studies have demonstrated that a vast array of behaviours, including pathological responses, can be learned through the direct observation of significant others (Santrock, 1997).

Cognitive models of the association between avoidant coping and psychopathology. Cognitive explanations hold that some individuals have maladaptive information-processing biases and attributions, and are hyper-attentive to information that confirms these distorted thinking processes. According to the cognitive model of psychopathology, these negative thinking styles lead to maladaptive behaviours and emotions (Beck, 1995). The maladaptive cognitions underlying forms of psychopathology such as anxiety and depression are maintained by maladaptive coping strategies such as avoidance. By this account, avoidant coping benefits the individual in the short term by allowing him or her to escape from the aversive context or situation, thereby alleviating emotional distress. In the long term, however, negative cognitive biases maintain psychopathology because information supporting these biases is selectively focused on while contradictory evidence is ignored or discarded.

Research findings on the association between avoidant coping and psychopathology. Avoidant coping has been implicated in the maintenance of psychological problems such as binge eating, the eating disorders, substance abuse problems, depression and anxiety disorders, and associated with the negative sequelae of sexual abuse. The association between avoidant coping and pathological outcomes is elucidated in the following discussion.

Escape theory and binge eating problems. A number of researchers have concluded that avoidant coping plays a major role in both sub-clinical eating problems and full-blown eating disorders. The role of avoidant coping in binge eating problems is consistent with the widely researched *escape theory* of binge eating. According to

the escape theory of binge eating, bingeing often occurs as an attempt to escape or avoid aversive self-awareness (Heatherton & Baumeister, 1991). This form of avoidant coping involves emotional, cognitive and behavioural processes. Escape theory holds that individuals who engage in binge eating have high standards and expectations of themselves, and are acutely sensitive to the perceived demands of others. When they inevitably fall short of these standards, such individuals develop an aversive state of high self-awareness characterised by a negative view of self and excessive concern regarding how they are perceived by others. These negative perceptions produce emotional distress characterised by symptoms of depression and anxiety such as low mood, self-deprecating thoughts, and anxiety regarding potential social rejection, criticism, and negative evaluation by others. To escape from this negative state, individuals who binge eat engage in a cognitive process of attentional narrowing such that they focus solely on the immediate stimulus environment (the food), in order to avoid meaningful thought regarding the implications and consequences of their eating behaviour. This attentional narrowing serves to unlock normal inhibitions about eating, and cultivates acceptance of distorted or irrational eating-related beliefs and cognitions (Heatherton & Baumeister, 1991).

A great deal of empirical research has supported the components of the escape theory of binge eating, and the notion of escape from aversive self-awareness has also been applied to problems such as sexual masochism and maladaptive alcohol use (Heatherton & Baumeister, 1991; Hull, 1981; Steele & Josephs, 1990).

Additional binge eating research findings. Hansel and Wittrock (1997) compared the coping strategies used by a non-clinical group of female college

students who engaged in binge eating, with those of a control group who did not engage in binge eating. Results of this study indicated that participants in the binge eating group engaged in both more positive and more negative coping strategies relative to the control group. These researchers also suggested that individuals who binge eat may generally use more avoidant coping strategies (such as catastrophising) relative to individuals who do not, and that this may be particularly notable in stressful interpersonal situations (Hansel & Wittrock, 1997).

It may be the case that the association of avoidant coping and binge eating is best conceptualised in terms of the influence of depression on this relationship. For example, Paxton and Diggens (1997) found no difference in the extent of avoidant coping strategies between binge eaters and restrained eaters. These researchers also found that without statistical consideration of depressive symptom levels, avoidant coping was not associated with binge eating behaviour. Paxton and Diggens (1997) suggested that it may be the comorbid depressive symptomatology, as opposed to binge eating symptoms themselves, that is producing the avoidant coping – binge eating relationship found in many studies. Further research is required to allow a more thorough understanding of these interrelationships, however.

Anorexia nervosa and bulimia nervosa. Mayhew and Edelman (1989) investigated the relationship between coping styles and eating disturbance. These researchers used a non-clinical sample, and found that disordered eating was associated with both greater use of avoidant coping and lower use of active cognitive and behavioural coping.

Shatford and Evans (1986) found that women with bulimic symptoms were more likely to use avoidant and emotion-focused coping and less likely to use problem-focused coping to deal with stressful life events and daily hassles. Similarly, Koff and Sangani (1997) found that college women who scored highly on the Eating Attitudes Test (EAT; Garner, Olmsted, Bohr, & Garfinkel, 1982) also scored highly on the Emotion-oriented Coping and Avoidance via Distraction subscales of the Coping Inventory for Stressful Situations (Endler & Parker, 1990).

Beiler and Terrell (1990) examined coping styles in individuals with anorexia nervosa and bulimia nervosa, and found that these individuals were more likely to engage in avoidant coping than individuals in a non-eating disordered control group. Other studies have revealed similar findings. For example, Troop, Holbrey, Trowler and Treasure (1994) found that individuals with anorexia nervosa or bulimia nervosa used proportionately more avoidant coping strategies compared to individuals in a control group. Gorman (1999) examined the relationship between avoidant coping, anorexic tendencies and early feminist identity in 100 college women. Gorman found that avoidant coping was a significant predictor of subclinical anorexic tendencies, and suggested that avoidant coping may be an extension of traditional, socialised feminine roles (thereby explaining the finding that the vast majority of individuals with eating disorders are female).

Sherwood, Crowther, Wills and Ben-Porath (2000) suggested that women with bulimia nervosa used eating as a form of avoidant coping. This coping strategy was described as maladaptive in that it was associated with high levels of emotional

distress (as measured by the Positive and Negative Affect Schedule or PANAS) in the sample concerned.

Bittinger and Smith (2003) further elucidated the relationship between disordered eating and avoidant coping, and suggested that it would be overly simplistic to state that people (primarily women) with eating disorders engaged in excessive dysfunctional coping strategies. According to these researchers, the crucial factor in understanding this relationship was the perception of stress by individuals with eating problems. Individuals with eating problems or disorders perceived events and situations as more stressful than non-clinical individuals. As a result, emotion-focused coping strategies described by some authors as 'dysfunctional' could in fact be conceptualised as functional attempts to address dysfunctional perceptions (Bittinger & Smith, 2003). This notion was consistent with Lazarus' cognitive appraisal theory (eg. Lazarus & Folkman, 1984), which held that perceptions or appraisals idiosyncratic to both person and situation mediated the link between life stressors and subjective distress.

Further support for this hypothesis was provided by Crowther, Sanftner, Bonifazi, and Sheperd (2001) who found that a non-clinical sample of female university undergraduates who engaged in binge eating perceived daily hassles as more stressful than those who did not engage in binge eating.

Substance abuse problems. A number of studies have demonstrated that individuals with substance abuse problems engage in more avoidance coping than individuals without such problems. In fact, substance abuse itself has been

conceptualised as a form of avoidant coping (Litt, Kadden, Cooney, & Kabela, 2003). An empirically supported model developed by Cooper, Russell and George (1988) proposed that alcohol abuse could be predicted from a causal chain including general avoidance of negative emotion as a distal determinant, and drinking to cope as a proximal determinant. A number of other studies have found a strong association between avoidant coping style and alcohol consumption in stressful situations (Armeli, Carney, Tennen, Affleck, & O'Neil, 2000).

Swendsen, Tennen, Carney, Affleck, Willard and Hromi (2000) found that in a sample of 100 participants, greater reported nervousness was associated with greater subsequent alcohol consumption which, in turn, was associated with a reduction in nervousness. The conclusion of this study was that self-medication through alcohol use was an avoidant coping strategy used by participants to reduce negative affect. The strength of this study was that it had excellent ecological validity; participants reported their emotions and drinking patterns over a thirty-day period using hand-held computers while in their own homes.

Moos, Brennan, Fondacaro and Moos (1990) examined approach and avoidance coping responses in a sample of older individuals (aged 55-65 years) who were either problem or non-problem alcohol drinkers. Moos and colleagues found that problem drinkers were more likely to use behavioural and cognitive avoidance methods to cope with life stresses compared to non-problem drinkers, and that there was an inverse relationship between amount of avoidant coping and amount of social and financial resources. Most importantly, those problem drinkers who relied more on avoidant coping methods generally reported more drinking problems, depression and

physical symptoms, and lower self-confidence compared to those who used avoidant coping methods less frequently (Moos et al., 1990).

Finally, Franken, Hendriks, Haffmans and van der Meer (2001) found that the presence of mood and anxiety disorders exacerbated the use of avoidant coping strategies in a sample of individuals with substance abuse problems.

Depression. Blalock and Joiner (2000) examined the association between avoidant coping and depressive and anxious symptoms in a sample of undergraduate college students. They found that cognitive avoidance coping, as measured by the Coping Responses Inventory (Moos, 1993), was predictive of depressive and anxious symptoms in females, while no relationship was found between behavioural avoidance and these symptoms in either females or males. Blalock and Joiner indicated that these findings were consistent with the finding that women were more likely to become depressed compared to men, and with the proposition of Gorman (1999) and others (eg. Stanton & Franz, 1999) that females were socialised into using avoidant coping strategies to a considerably greater degree than men. The present study assessed gender differences by comparing male and female participants' scores on all coping instruments, and predicted that females would report higher scores on avoidant coping scales and subscales compared to males.

Spangenberg and Theron (1999) investigated the coping strategies of 50 spouses of clinically depressed individuals. These researchers found that avoidant coping strategies were significantly positively correlated with anxiety and depression (as measured by the State-Trait Anxiety Inventory and Beck Depression Inventory,

respectively), and significantly negatively correlated with marital adjustment (as measured by the Locke-Wallace Marital Adjustment Test). Spangenberg and Theron concluded that an avoidant coping style in the spouses of clinically depressed individuals might either exacerbate or promote the development of depressive or anxious symptomatology in the non-depressed spouses.

Chan (1995) examined the association between depressive symptoms and coping strategies in a non-clinical sample of 161 Chinese adolescents. Chan found a significant positive association between participants' scores on the Beck Depression Inventory and their scores on the avoidant coping subscale of the Ways of Coping Questionnaire, and concluded that avoidant coping may be a maintaining factor for subclinical depressive symptomatology.

Personality disorders. Bijttebier and Vertommen (1999) examined the coping styles of psychiatric inpatients diagnosed with DSM-IV personality disorders, and found that individuals who met criteria for all Cluster A personality disorders (paranoid, schizoid and schizotypal), borderline personality disorder, dependent personality disorder and avoidant personality disorder, tended to engage in avoidant coping strategies to a greater extent than inpatients who did not have a personality disorder. Bijttebier and Vertommen stated that the use of avoidant coping strategies appeared to aggravate personality pathology, while acknowledging that this coping style could also be a cause of dysfunctional personality processes.

Anxiety disorders. Perhaps the clearest evidence for the role of avoidant coping in maintaining psychological dysfunction lies in the copious anxiety disorders

literature. A core aspect of etiological models of anxiety disorders, treatment programmes, and the theoretical and practical literatures on this common set of disorders, is that the principal factor in maintaining dysfunctional anxiety is avoidance of situations, objects or other people that are the basis of the afflicted individuals' fears (Andrews, Crino, Hunt, Lampe, & Page, 1994; Wells, 1997).

For example, Clum and Knowles (1991) argued that agoraphobic avoidance was predicted by three sets of cognitions; negative outcome expectancies (expectations of situation-specific fears), perception of panic triggers (perceiving a link between situations and panic attacks), and perceptions of inability to cope (lack of confidence regarding perceived ability to cope with future panic attacks). According to Clum and Knowles, these cognitive processes led to the characteristic avoidance behaviour of agoraphobia.

Trauma/PTSD. Sharkansky et al. (2000) assessed the relationship between coping methods and post-traumatic stress disordered and depressive symptomatology in a sample of 1058 Gulf War army personnel. These researchers found that the participants who used avoidant coping strategies showed greater PTSD and depressive symptomatology both initially and at two-year follow-up compared to participants who had used active, problem-focused techniques.

Bryant and Harvey (1995) found that an avoidant coping style was associated with greater frequency of thought intrusions (flashbacks) as measured by the Impact of Events Scale (IES) compared to an approach or problem-focused coping style in a sample of motor vehicle accident survivors. Similarly, Kamphuis and Emmelkamp

(1998) found that an avoidant coping style was positively associated with post-traumatic distress as assessed by the IES and the Symptom Checklist (SCL-90) in a sample of victims of bank robbery.

Adjustment problems in survivors of sexual abuse. Chaffin, Wherry and Dykman (1997) found that avoidant coping strategies were associated with greater sexual anxieties in a sample of 84 children who were the victims of sexual abuse. Holman and Silver (1996) examined father-daughter incest, and suggested that a vital component in helping adult women work through their trauma was meaningful social interaction and support, which provided opportunities for venting of emotions and discussion of the abusive events. It therefore appears logical that avoidance of trauma-related material would hinder both the 'working through' process and the subsequent psychological integration of the trauma.

Other non-clinical problems. Avoidant coping has also been found to play a role in problems as diverse as debilitating exam-related anxiety (Raffety, Smith & Ptacek, 1997) and negative affectivity in the workplace (Bowman & Stern, 1995), and to be a general risk factor for educational underachievement, delinquency, substance abuse and sexual risk-taking behaviour (Cooper, Wood, Orcutt, & Albino, 2000). Despite the compelling evidence regarding the negative sequelae of avoidant coping, however, consideration should be given to the proposition that this type of coping style can have positive outcomes.

Avoidant Coping is not Always Dysfunctional

In order to provide a thorough and unbiased consideration of the literature on coping in general and avoidant coping in particular, it must be made clear that the selection of an avoidant coping strategy does not necessary destine one to psychological dysfunction or pathology. In actuality, avoidant coping can in some circumstances facilitate an improvement in a given individual's quality of life.

For example, Roth and Cohen (1986) indicated that an avoidant form of coping could be adaptive during the initial stressful period, when emotional resources may be limited. An avoidant coping strategy could also be helpful when the stressful situation was perceived as uncontrollable, in which case approach-oriented coping would be unhelpful or ineffective. Nevertheless, in the majority of cases in which an individual can select either an approach or avoidant coping strategy or set of strategies, the literature has clearly shown that an approach or problem-focused coping strategy has greater efficacy in terms of reducing distress compared to avoidance or emotion-focused coping (Holahan et al., 1996).

Summary

As the preceding discussion has illustrated, avoidant coping plays a central role in the etiology, exacerbation and maintenance of a number of psychological problems. This role is not limited to clinical disorders, but pervades a vast array of psychological and physical health problems. Coping in general, and avoidant coping in particular, are features of every person's attempts to manage the demands of

stressful situations. Hence, the present study will add to our understanding of coping assessment in general terms, despite the use of a specifically non-clinical sample.

Assessment of Coping

The structural bases of coping assessment have paralleled historical categorisations of the coping process, and have described this process in dispositional versus situational, approach versus avoidance, and cognitive versus behavioural terms. The importance of understanding these dimensions has been made clear in the coping assessment literature. Nevertheless, considerable confusion still exists regarding the core constructs of coping, and a number of methodological problems and shortcomings in coping assessment techniques have been highlighted. The following discussion will consider the issues of dispositional versus situational assessment of coping, confusion over the central coping constructs that have been recommended as foci for assessment, construct validity, the form versus function of coping strategies, forms of measurement in coping assessment, and the temporal variability of coping responses.

Dispositional vs. Situational Assessment

According to the dispositional perspective on coping assessment, coping strategies tend to be similar across time and situation. In contrast, situational theories hold that an individual's coping responses are determined by situation-specific individual and environmental factors.

There has been considerable debate as to whether coping is more accurately conceptualised as a dispositional or a situation-specific process. Due to findings of low cross-situational consistency in some studies, it has been suggested that situation-specific coping measures may be favourable to dispositional measures. In support of dispositional measures, however, other research has found evidence of temporal consistency, indicating that similar stressful situations tend to yield similar coping strategies over time (Steed, 1998).

Rafferty, Smith and Ptacek (1997) explained that a number of dispositional constructs have been found to influence the appraisal of stressful situations, the experience of emotions, and the selection of coping responses. Examples of such constructs include repression of stress-related information, locus of control, sensation-seeking, trait anxiety and neuroticism. Conversely, the empirically supported cognitive appraisal theory outlined by Lazarus and Folkman (1984) suggested that it was the situation-specific perception of demands on an individual's (perceived) resources that determined coping responses.

Edwards and Trimble (1992) indicated that the distinction between dispositional coping styles and situation-specific coping responses was similar to that made between trait and state anxiety, and that because such distinctions were both useful and not mutually exclusive, consideration of both conceptualisations was of value in understanding the coping process. Other theorists have supported this position. Schwarzer and Schwarzer (1996) argued that dispositional coping measures inherently assumed that situation-specific coping responses were of minor importance in facilitation of our understanding of the coping process. These researchers also

advised that the measurement of coping could only be of practical utility if one assumed that peoples' coping responses generalised across situations to some degree (Schwarzer & Schwarzer, 1996). The reason for this was that if coping responses were considered completely idiosyncratic to a given stressful situation, there would be no way of making predictions about how a given individual or client would respond to future stressful events. Similarly, therapeutic interventions that involved coping skills training would be of very limited efficacy if the client's typical pattern of responding to stress were not examined.

Clearly then, explication of the coping process in solely dispositional or solely situational terms precludes a thorough understanding of this dynamic phenomenon. In accordance with this position, the present study utilised both dispositional and situational measures of participants' coping styles.

Aside from the dispositional - situational distinction, the coping assessment literature has been criticised due to the lack of a consistent consensus regarding the core constructs that measurement tools should assess. Critical reviews of this literature have also highlighted problems related to the classification of specific coping categories (particularly social support), the form versus function of coping strategies, and temporal variations in coping behaviours and cognitions.

Confusion over Core Coping Constructs

A proliferation of studies concerning the classification and measurement of coping has emerged over the past two decades. Within this considerable body of work

a plethora of different categorical systems have been developed, each aimed at providing an accurate representation of the range of possible coping responses an individual may employ. Rather than providing clarification of the coping process, however, this work may have inadvertently complicated our understanding of human coping strategies.

As De Ridder (1997) elucidated, considerable disagreement existed in the literature regarding the number of dimensions that were sufficient to capture the complexity and range of coping responses. The critical number of dimensions may lie between two and eight, as two dimensions may mask the variability of coping responses, while eight or more created an unwieldy number of combinations or possible responses (De Ridder, 1997). In addition to disagreements at the dimensional level, problems also existed at the level of the content and character of specific coping strategies. For example, social support had been conceptualised as a coping resource rather than a coping response. Another example of the lack of clarity surrounding the content of specific coping responses related to the issue of cognitive and behavioural coping responses. Whilst some authors contended that behaviours should be the sole focus of coping research, others argued that cognitive coping is paramount. Still others held that both forms should be attended to (De Ridder, 1997). In terms of the newer coping measures utilised in the present study, the differential focus of the YRAI and the AAQ on cognitive versus behavioural items may result in a weaker relationship between the measures than if both scales had equal numbers of cognitive and behavioural items. This speculation is based on findings reported by Steed (1998) that stronger relationships had been found between cognitive avoidance and emotional

distress compared to behavioural avoidance, and will be considered later in this study by comparing the number of cognitive and behavioural items in each measure.

In a comprehensive review of the coping literature, Skinner, Edge, Altman and Sherwood (2003) reviewed 100 category systems, and found that no two systems included the same set of categories. These researchers suggested that disagreement about the core constructs of coping had obstructed both the accumulation of knowledge required for explanatory and intervention attempts, and the development of rigorous methodological techniques. In the case of questionnaire-based assessments, the vast array of classification options made it difficult to evaluate the clarity and comprehensiveness of the sets of categories on which each questionnaire was established. This issue related to a central aim of the present study, namely the examination of the conceptualisation and psychometric assessment of avoidant coping.

Non-questionnaire-based assessment methods also had inherent difficulties (Skinner et al., 2003). Due to the complexity and variety of different methods of coping, the development of well-organised observational coding schemes or concise daily assessments was extremely problematic. The fundamental challenge in the identification of core coping clusters was that coping was not a particular behaviour or belief that could consistently be described. Instead, it was an organisational construct used to cover the vast array of actions people use to deal with stressful situations and experiences (Skinner et al., 2003). This construct was, therefore, open to operational definitions based on the theoretical perspective of each coping researcher. As Beehr and McGrath (1996) pointed out, considerations about what

constituted a stressful event, evidence of stress, and evidence of coping were idiosyncratic to the person who experienced the stress and the person who studied this process. The researcher's construal of the make-up of stress and coping processes influenced his or her selection of research methodology, design and operations, which, in turn, governed what could be concluded from that research. Embedded in this argument lie issues related to construct validity and the forms of measurement used to assess coping.

Construct Validity

Constructs are abstract concepts used by researchers to articulate their theories. Each construct is assumed to have a border that defines the limits of the specified theoretical domain. According to the concept of convergence, measurement instruments that claim to be different measures of the same construct should overlap if they are part of the same theoretical domain (Benson & Hagtvet, 1996). If they do not overlap, this would suggest that different researchers had specified different elements in their definition of the construct. Such differences may be due to problems with the theory underlying the development of a given scale, or may suggest that all or some of the items in a questionnaire are not good indices of the empirical domain (Benson & Hagtvet, 1996). In the domain of coping in general, and avoidant coping in particular, research that has attempted to define the exact nature and number of coping responses has been scarce (De Ridder, 1997). The present study specifically examined the assessment of the avoidant coping domain.

A central aim of the present study was to investigate the construct validity of the YRAI and AAQ through examination of the concurrent validity of these scales. Scores on well-validated criterion variables (the COPE and the CRI) were correlated with scores on the newer predictor variables (the YRAI and AAQ) to achieve this goal. Whilst the lack of precise definitions regarding current coping constructs precludes definitive conclusions about the construct validity of the YRAI and AAQ, data concerning the concurrent validity of these scales may be of use in further refining the construct of avoidant coping.

Form versus Function of Coping Strategies

As indicated previously, an important distinction exists between the form and function of coping strategies. The form of a given strategy refers to the topography of a coping behaviour, or simply what the behaviour looks like to an observer. Examples include drinking a large quantity of alcohol, changing occupations, physically removing oneself from a stressful interpersonal conflict, or seeking professional advice. The function of a given coping strategy refers to the effect that a behaviour produces on the consequences that follow the behaviour. A given coping response may serve the function of reducing emotional distress, increasing one's sense of mastery, or reducing the perceived demands of a stressful situation. The present study addressed the form versus function issue through examination of the content of the YRAI and AAQ items for the extent to which they assessed the function of thought processes and behaviours defined as avoidant. Given the purpose of these measures (namely, to assess avoidant coping), it was predicted that the content of the YRAI and AAQ items would explicitly state the function of the coping strategies they assessed

(for example, "I drink alcohol in order to *take my mind off my problems*"). A brief consideration of typical functional distinctions in the coping literature will now be provided.

The two primary functional distinctions in the coping literature are problem-focused versus emotion-focused, and approach versus avoidance. The former distinction was proposed by Lazarus and colleagues (eg. Lazarus & Folkman, 1984), and held that the functions of coping strategies were either to deal directly with the internal or external demands that created subjective distress, or to regulate or modify the distress itself (Steed, 1998). These attempts could be either cognitive or behavioural in method, and approach-oriented or avoidance-oriented in focus. This conceptualisation of coping functions has spurned a wealth of research, and has provided the basis for a number of psychometric scales, including the widely used Ways of Coping Questionnaire (Folkman & Lazarus, 1980; 1985).

Roth and Cohen (1986) explained that approach coping strategies served the functions of altering the stressful situation to make it more controllable, and allowing for the ventilation of affect. In contrast, avoidant coping strategies served the functions of reducing distress and preventing anxiety from becoming debilitating. Approach strategies were oriented towards the stressor, whilst avoidant strategies directed the individual away from the distressing event or situation (Steed, 1998). The approach-avoidance distinction has also guided the development of a number of psychometric instruments, including the Coping Responses Inventory (CRI, Moos, 1993) which is utilised in the present study.

An important issue raised by Schwarzer & Schwarzer (1996) was that a given form of coping could serve different and multiple functions. For example, by seeking information an individual may not only calm down and reduce the perceived threat of a stressful situation, but may also prepare for later action. Thus, this individual has simultaneously engaged in both emotion-focused and problem-focused coping. To provide a thorough assessment of the coping process, it is therefore insufficient to focus solely on the topography of coping behaviours. Of greater importance, particularly in the context of thinking styles and behaviours that become the focus of clinical attention, is the analysis of the function or purpose of these strategies for a given client. The distinction between the form versus function of coping strategies has been repeatedly highlighted with regard to the construct of social support-seeking.

Social Support

As Schwarzer and Schwarzer (1996) pointed out, social support is a multidimensional construct. Whilst most coping inventories assess social support in some way, the construct has been poorly defined in the coping literature. Some social support seeking may assist with problem solving and therefore be conceptualised as problem focused coping. Other attempts at seeking support may serve the function of reducing emotional distress, thus be best described as emotion focused coping (Coyne & Racioppo, 2000).

Social support has also been described in terms of its approach versus avoidant function. According to Skinner et al. (2003), the discharge of emotions in a supportive social context oriented the individual towards the stressor, thus would be described as

approach coping. Conversely, spending time with friends instead of going to work in a stressful occupation clearly constituted avoidant coping. Skinner and colleagues (2003) indicated that the explication of constructs such as social support in terms of approach versus avoidance was of little practical use in coping research, as these categories did not take into account the function of support seeking behaviour, irrespective of orientation. According to Skinner and colleagues, coping categories within the approach and avoidant dimensions were heterogeneous, and that classification at the categorical level was required to more accurately reflect the multiple functions of social support-related coping responses. The present study took this issue into consideration by comparing the social support subscales of each coping instrument to investigate the similarities and/or differences in classifications of this coping domain. In addition to psychometric instruments, a number of methods for the assessment of coping have been identified.

Forms of Measurement

Four operational forms of coping measurement have been identified in the coping literature. These include subjective reports such as interviews and questionnaires (such as those utilised in the present study), direct observations, trace measures, and measures derived from archival records. Each form of measurement has its own idiosyncratic strengths and weaknesses (Beehr & McGrath, 1996), as outlined below.

Subjective reports have been the most common form of measuring coping responses. Interviews and questionnaires are often favoured due to their low cost,

relative ease of administration, and capacity to tap into the subjective experience of the individual of interest (Beehr & McGrath, 1996). The primary limitation of subjective reports is that they are by definition vulnerable to subjective biases. Any formulations based on subjective report data must therefore incorporate an awareness that there may be a different, and perhaps contradictory, perspective to that of the client. Nevertheless, in the context of a therapeutic environment where coping strategies are a focus of concern, it is the unique and idiosyncratic experiences of a particular client that are of interest. Hence, the use of subjective data is of primary concern to any professional working in an interpersonal context.

Direct observations overcome the issue of subjective bias; however, they are themselves influenced by observer biases, or the attitudes, beliefs and opinions of the individual(s) in the observer role. Direct observation methods can also be costly, intrusive, and can influence the behaviour of the subject of observation, thereby creating inaccuracy in the data. A further limitation of the direct observation method is that, unlike self-report data, it is only able to assess behavioural coping. It is impossible to assess any cognitive method of alleviating distress, as such methods are not visible to an external observer.

Trace measures (physical evidence of coping behaviour) and archival records (historical documentation of past behaviour) have also been used in the assessment of coping behaviour. Whilst trace measures and archival records are unbiased by either the researcher or the subject, these methods only assess historical coping attempts, are only able to assess behavioural forms of coping, and provide no information about the function of those behaviours (Beehr & McGrath, 1996).

As elucidated in the clinical psychology case formulation literature, the use of multiple methods of assessment has clearly been shown to be superior to any one assessment method alone (Eells, 1997). The primary reason for this is that the use of multiple methods retains the strengths of each measure while reducing the weaknesses or limitations of any single measurement instrument (Beehr & McGrath, 1996). The present study addressed self-report psychometric questionnaires in isolation. In a thorough clinical assessment, however, such instruments would strictly be used in conjunction with interview and other data.

In summary, a number of options are available to aid in the assessment of coping responses. Each method has both advantages and disadvantages, and the most accurate form of assessment is typically multimodal in nature. In terms of individual methods, however, subjective reports, such as those utilised in the present study, are clearly favoured among coping researchers.

Temporal Variability in Coping

A further difficulty in the assessment of coping concerns the time period for which a given individual chooses to report their coping attempts (Steed, 1998). Beehr and McGrath suggested that coping could encompass endeavours with "prospective, concurrent, or retrospective temporal relations with the stressful event" (Beehr & McGrath, 1996:67). Examples included preventive coping, which referred to actions taken long before a predicted stressor might occur; anticipatory or proactive coping, which occurred when the stressor was about to occur; dynamic coping, which took

place concurrently with the stressor; reactive coping, which occurred after the stressor; and residual coping, which involved contending with the long term effects of the stressor. Clearly then, the coping process could be conceptualised as dynamic in nature, and varied in line with the ever-changing appraisal of the stressful situation and the individual's perception of his or her available coping resources (Lazarus & Folkman, 1984).

In terms of the psychometric assessment of coping, it may be the case that unless a time period is stipulated (seldom the case in current instruments), different respondents may select varying time periods from which to report their coping attempts. Research has revealed that people tended to use different coping strategies before, during and after a stressful event or situation (Beehr & McGrath, 1996). The present study addressed this issue by examining whether the YRAI and the AAQ specified time periods, in their instructions to people completing the scales, during which coping attempts occurred. Inclusion of time periods would enhance the convergent validity of these scales by allowing researchers and practitioners to match the coping responses of different individuals in terms of the time period during which they utilised these responses. Failure to include specific time periods may weaken the convergent validity of the YRAI and the AAQ, as the time period in which a given individual engaged in coping responses would be unclear. This would preclude inter-individual comparisons of coping responses, thereby limiting the utility of the coping measures. Existing measures of coping such as the CRI (a situational measure) and the COPE (a dispositional measure) both fail to specify explicit time periods in their instructions to individuals completing the scales.

The temporal variability of coping responses would suggest that comparisons between individuals were not possible, or possible only when interpreted with extreme caution. However, Beehr and McGrath (1996) indicated that while retrospective reports of coping attempts may be related to any stage of a stressful episode, they were typically biased towards the most recent stage, namely the time period following the episode. Some degree of predictability of responding may therefore be possible. In relation to the present study, it has been assumed that participant responses pertained to the period following the stressful event.

Summary of Coping Assessment Issues

A number of methodological issues have hindered progress in the field of coping assessment. Perhaps the most pervasive of these has been the uncertainty regarding which set(s) of strategies most accurately define the coping construct. One aim of the present study was to further clarify this issue in the domain of avoidant coping, by performing factor analysis on the YRAI, AAQ, and avoidance subscales of the COPE and CRI, to examine which factors appear central to this domain.

Psychometric Assessment of Coping

The primary means of assessing an individual's coping style or set of coping responses in a clinical setting involves the use of interviews, the collection of collateral information, and through self-report psychometric instrument data. As outlined in the proceeding discussion, the debate surrounding the theoretical conceptualisation of coping responses as either dispositional or situation-specific has

encompassed the literature on the psychometric assessment of coping styles and responses. A brief overview of various coping measures and discussion of the newer measures utilised in the present study (the YRAI and the AAQ) are provided below, followed by the rationale for the present study.

Psychometric Measures of Coping

A number of psychometric tests have been devised in order to assess different aspects of coping. These include the Ways of Coping Questionnaire (Folkman & Lazarus, 1980), the COPE (Carver, Scheier, & Weintraub, 1989), the Coping Inventory for Stressful Situations (Endler & Parker, 1990), and the Coping Responses Inventory (Moos, 1993). The most widely used instruments in current research and practice have been the Ways of Coping Questionnaire (WCQ) and the COPE. The WCQ became extremely popular soon after its revision in 1984 due to its easy administration, applicability to a wide range of psychological problems, and strong theoretical base (Snyder & Dinoff, 1999). The COPE also has a strong theoretical grounding, its fifteen subscales developed on the basis of either theoretical arguments or empirical validation (Weinman, Wright, & Johnston, 1995). An advantage of the COPE over the WCQ is that different versions of the COPE can be used to assess both situation-specific and dispositional coping methods, whereas the WCQ focuses solely on situation-specific coping strategies. The dispositional version of the COPE is one of the measures included in the present study.

The Coping Responses Inventory (CRI) is a 58-item, situation-specific questionnaire that measures an individual's cognitive appraisal and cognitive and/or

behavioural coping strategies in response to a specific, stressful life event that has occurred in the last 12 months (Moos, 1993). The CRI combines the two primary conceptual approaches to the classification of coping responses, namely focus (problem-focused or emotion-focused) and method (cognitive or behavioural).

Young-Rygh Avoidance Inventory (YRAI)

The problem with the current psychometric instruments described above is that they have tended to provide a general indication of an individuals coping style or coping responses, without consideration of specific details regarding exactly how that individual would behave (in terms of avoidance) in a given situation. The Young-Rygh Avoidance Inventory (YRAI; Young & Rygh, 1994) may provide such detail. The YRAI is a 40-item questionnaire that assesses the presence and scale of a range of cognitive, behavioural, emotional and somatic avoidance strategies.

The YRAI is a product of Young's schema theory and schema therapy concepts. According to Young, schemas were broad, pervasive themes with regard to oneself and one's relationship with other people, developed during childhood and refined throughout one's lifetime (Young, 1996). Maladaptive schemas were defined as schemas that were dysfunctional to a significant extent (Young, 1996). Young described coping styles as the ways in which children adapted to their schemas and to aversive childhood experiences. According to Young, children coped in three ways. Some children 'surrendered' to their schemas, relied on others and were very passive and dependent; some children 'fought back' or 'overcompensated' for their schemas (examples included hostility, attention seeking, rebellion and excessive orderliness);

and some children attempted to 'block out' or 'escape from' harm (avoidance). The YRAI was developed based on the 'avoidance' maladaptive coping style outlined by Young (1996).

In the only research application of the YRAI currently available, Spranger, Waller and Bryant-Waugh (2001) compared the YRAI scores of a sample of bulimic or non-bulimic women with their scores on the Bulimic Investigatory Test, Edinburgh (Henderson & Freeman, 1987). The Bulimic Investigatory Test measures number of bulimic symptoms, number of bulimic attitudes, and severity of bulimic behaviours (Spranger et al., 2001). Spranger and colleagues found that behavioural or somatic avoidance was more strongly associated with bulimic pathology than cognitive or emotional avoidance, and concluded that the YRAI was a strong measure of various domains of avoidance that could prove useful in both the understanding and treatment of bulimic psychopathology.

Acceptance and Action Questionnaire (AAQ)

Another potentially useful psychometric tool is the recently constructed Acceptance and Action Questionnaire (AAQ; Hayes et al., 2002). The AAQ is a 32-item questionnaire that assesses the extent to which people reject or avoid internal experiences that may be unpleasant (experiential avoidance), and conversely the degree to which they accept and actively experience psychological discomfort (psychological acceptance).

The theoretical basis of the AAQ lies in the work of Steven Hayes and his colleagues (eg. Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). According to Hayes et al. (1996), many forms of psychopathology can be conceptualised as forms of experiential avoidance, or maladaptive attempts to escape or avoid unpleasant emotions, thoughts, memories and other private experiences. By this account, psychological disorders such as substance abuse, obsessive-compulsive disorder, panic disorder and borderline personality disorder were *themselves* viewed as forms of avoidant coping, as opposed to being problems that people may cope with using avoidant strategies.

Batten, Follette and Aban (2001) examined the association of experiential avoidance, or an avoidant style of coping with distressing internal events, with childhood sexual abuse in a sample of 257 female undergraduates. These researchers found that women who were sexually abused as children engaged in significantly more experiential avoidance, as measured by the AAQ, compared to women who were not abused. In addition, significant associations were observed between general experiential avoidance and risky sexual behaviour in adulthood, and between general experiential avoidance and psychological distress, as measured by the General Severity Index of the Brief Symptom Inventory (Derogatis & Melisaratos, 1983).

Hayes and colleagues (2002) examined full and revised versions of the AAQ in nine studies. A total of over 2400 participants, from both clinical and non-clinical populations, were involved in these studies. Hayes and colleagues found that higher levels of avoidance, as measured by the AAQ, were correlated moderately to highly with scores on the Brief Symptom Inventory Derogatis & Melisaratos, 1983), the

Beck Depression Inventory (BDI-II, Beck, Steer, & Brown, 1996), the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988), and the Trauma Symptom Inventory (Briere, 1995).

Many forms of psychological therapy have yielded positive outcomes through the consideration of a process that works to oppose experiential avoidance, namely psychological acceptance. Psychological acceptance involves modifying the impact of aversive cognitions and emotions by altering the internal struggle with these thoughts and feelings rather than attempting to alter their frequency, form or situational sensitivity (Hayes et al., 2002). Hence, the continued study of experiential avoidance or avoidant coping may lead indirectly to more research on psychological acceptance as an effective adjunct to current therapy techniques. It is hoped that the present study will contribute to this research.

Rationale for the Present Study

An increasing number of studies have suggested that avoidant coping may play a key role in the etiology and maintenance of a number of psychological disorders or dysfunctions. At present, we do not possess a psychometric test that specifically assesses avoidant coping responses. This is important because such a test could reveal vital information regarding the methods by which a given client deals with his or her problems. This information could in turn have important implications for treatment (for example, the need to work on assertiveness skills, acceptance of problems, or altering faulty cognitions). The YRAI and AAQ are brief, easily administered tests that could provide clinicians with this information.

A central aim of the present study was to examine the psychometric properties of the YRAI and the AAQ. The following properties were assessed. Firstly, the test-retest reliability of the YRAI and AAQ was examined by having participants complete the questionnaires on two occasions, with a one-month gap between administrations. Secondly, the internal consistency of the YRAI and AAQ was tested with Cronbach's coefficient alpha, which provides an index of the extent to which items within a set are inter-related. Thirdly, the concurrent validity of the YRAI and AAQ was assessed through the comparison of participants' scores on these questionnaires with scores obtained from the avoidance components of the more validated COPE and CRI measures.

The discriminant validity of the YRAI and AAQ was examined by comparing participants' scores on these measures with scores obtained on the Paulhus Deception Scales (PDS; Paulhus, 1984), a widely used measure of social desirability. This instrument was formerly known as the Balanced Inventory of Desirable Responding, and assesses the extent to which individuals tend to either consciously or unconsciously respond to items in a manner that portrays them in an overly favourable light. The PDS was used for two reasons. Firstly, to determine whether participants were generally responding in an overly desirable manner, which would confound the results and conclusions of the present study with regard to the psychometric properties of the YRAI and the AAQ. The second reason for using the PDS was that psychological acceptance and willingness to experience private events (rather than avoiding them) have been found to be evaluated by research participants as socially desirable (Hayes et al., 2002). Similarly, individuals with a repressive or

avoidant coping style had been found to respond to self-report measures in an overly positive manner (Ashley & Holtgraves, 2003; Myers, 1998).This pattern of findings suggested that consideration should be given to the possibility that participants in the present study could respond to the YRAI and AAQ items in a socially desirable manner.

The YRAI and AAQ avoidance scores were also compared with scores obtained on the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) to assess the relationship between avoidant coping responses and emotional expression. The coping literature has focused on negative affect in the evaluation of this association, as no relationship has been found between avoidant coping and positive affect. As outlined previously, the psychopathology literature has linked an avoidant coping style with negative emotional states and psychological distress. However, research into autobiographical memory recall has found no difference between the mood states of individuals with and without an avoidant coping style (Myers & Brewin, 1994). The present study aimed to provide further clarification of the association between negative emotion and avoidant coping. Finally, YRAI scores were compared with AAQ scores to assess the degree to which these measures were measuring the same fundamental construct(s).

Behavioural Memory Task

Following the completion of the first set of questionnaires, a sample consisting of 93 participants were asked to complete a brief avoidance task. This task utilised the paradigm outlined by Myers and Brewin (1994), and was incorporated into the

present study to assess the relationship between participants' self-reported avoidant coping and a 'real time' or current measure of avoidance. Myers and Brewin (1994) found that individuals assessed as possessing a repressive coping style recalled significantly fewer negative childhood memories in a free recall task compared to both low-anxious and high-anxious individuals. No differences were found for recall of positive memories. These results were consistent with previous research findings (Davis & Schwartz, 1987).

Repression has been defined as an avoidance of anxiety-producing stimuli and their consequences, and a general orientation away from sources of threat (Roth & Cohen, 1986). Psychometric research classified individuals as repressors if they obtained low scores on measures of trait anxiety and high scores on measures of defensiveness or social desirability. Based on both their review of the literature and their research findings, Myers and Brewin concluded that there was clear evidence that an avoidant or repressive coping style was associated with the inhibition of negative memories from both childhood and adulthood. Based on this conclusion, the present study hypothesised that a negative correlation between avoidant coping style (as measured by the YRAI and AAQ) and number of negative childhood (prior to age 14) memories recalled (as measured by the behavioural memory task) would be found. Whilst the Myers and Brewin study only included female participants, the present study utilised a sample of both males and females.

Avoidant Coping and Social Desirability

As outlined above, research has suggested that individuals with a repressive or avoidant coping style typically responded to self-report measures in a socially desirable manner (Myers, 1998). A central question in relation to memory recall experiments such as that conducted by Myers and Brewin (1994) related to whether the poor performance of repressors relative to non-repressors was due to diminished access to emotional material or to impression management. Current research was unclear with regard to whether repressors genuinely avoided negative emotional memories, or whether they reported fewer negative memories in order to portray a positive impression (Ashley & Holtgraves, 2003). According to Ashley and Holtgraves, the former proposition could be considered self-deception, another element of social desirability. This argument was based on the premise that individuals who denied experiencing negative thoughts and emotions had deceived themselves, as all people were assumed to experience some level of negative experience. These researchers examined the influence of social desirability (self-deception and impression management) on recall of negative memories, and found that self-deception was a better predictor of memory recall than impression management, as measured by the PDS. The present study aimed to further clarify this issue, and examined the influence of social desirability (self-deception and impression management) on memory recall through multiple regression analyses.

Hypotheses

The present study examined a number of hypotheses. Firstly, both the YRAI and AAQ were expected to demonstrate strong positive correlations with the CRI avoidant subscale. This would provide evidence for the validity of the YRAI and AAQ. Secondly, that a strong positive correlation between scores on the YRAI and scores on the AAQ would be obtained. Thirdly, that participants scores on the YRAI and AAQ would correlate positively with negative affect scores on the Positive and Negative Affect Schedule (PANAS), a brief measure of positive and negative affect. This was based on the notion that avoidant coping does not deal directly with the problem, hence any negative affect related to the problem should remain. Fourthly, that the YRAI and AAQ would demonstrate sound internal consistency, test-retest reliability, convergent validity, and divergent validity. Fifthly, both the YRAI and the AAQ were expected to demonstrate strong positive correlations with the percentage of negative memories generated in the behavioural avoidance task. Additionally, in line with the findings of Myers and Brewin (1994), both the YRAI and AAQ were expected to demonstrate strong positive correlations with the age of first negative memory generated in the memory task. Finally, it was hypothesised that the results of this study would support the proposition of Gorman (1999) and others (eg. Stanton & Franz, 1999) that females were socialised into using avoidant coping strategies to a considerably greater degree than men. This would be reflected in higher avoidance scores obtained by female participants compared to male participants on the YRAI and AAQ.

Method

Participants

The participants in this study were 198 student volunteers from the University of Canterbury. Participants had a mean age of 26.82 years (SD = 8.33). Forty-two percent of the sample were males (N = 83; M age = 25.63 years, SD = 8.58) and 58% were females (N = 115; M age = 27.68 years, SD = 8.07). Participants were recruited via advertisements posted on campus, verbal recruitment from undergraduate announcements at psychology laboratories, and the University of Canterbury internal electronic mail. The advertisement template can be found in Appendix A. Participants were asked to read and sign a consent form prior to study participation. The consent form template can be found in Appendix B.

All participants were contacted via electronic mail three weeks after completion of the first set of questionnaires and asked to contact the experimenter to arrange a time to complete the memory task and collect the second set of questionnaires. Ninety-three participants (20 males, 73 females; M age = 26.92, SD = 8.98) made contact with the experimenter via electronic mail, established a suitable appointment time, and completed the memory test and second questionnaire administration.

Measures

YRAI. The YRAI is a 40-item self-report scale reported to assess the presence and degree of a variety of avoidant coping strategies (Young & Rygh, 1994). This inventory includes statements related to cognitive, behavioural, somatic and emotional avoidance (Spranger et al., 2001). No literature could be obtained on the psychometric properties of the YRAI, and attempts to contact the scale developers for such information proved unsuccessful.

The range of response options for the YRAI is 1-6, where a score of 1 indicates that the item content is "*Completely untrue of me*", and a score of 6 indicates that the item "*Describes me perfectly*" (Young & Rygh, 1994). Whilst there are at present no formal scoring criteria, Young and Rygh suggested that all items rated '5' or '6' represented primary means by which individuals avoided feeling or dealing with the emotions associated with their core schema, and should therefore be the focus of clinical attention.

AAQ. The AAQ is a 32-item self-report questionnaire that assesses the extent to which people reject or avoid internal experiences that may be unpleasant (experiential avoidance), and conversely the degree to which they accept and actively experience psychological discomfort (psychological acceptance). Responses are made on a 7-point scale that ranges from 1 (*never true*) to 7 (*always true*).

The convergent validity of the AAQ has been established (Hayes et al., 2002). Hayes and colleagues found significant and moderate to high correlations between the

AAQ and measures of psychopathology such as the Global Severity Index of the Symptom Checklist 90 (SCL-90-R; Derogatis, 1994; r = .49 - .53), the Brief Symptom Inventory (Derogatis & Melisaratos, 1983; r = .56 - .70), the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996; r = .36 - .72), the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988; r = .35 - .58), and the Trauma Symptom Inventory (Briere, 1995; r = .55 - .68). These findings are consistent with the underlying theory of the AAQ, which holds that experiential avoidance is a core component of many forms of psychopathology (Hayes et al., 1996). The AAQ has also demonstrated construct validity and modest to moderate internal consistency (alpha = 0.70; Hayes et al., 1996).

CRI. The Coping Responses Inventory (CRI) is a 58-item questionnaire that measures an individual's cognitive appraisal and cognitive and/or behavioural coping strategies in response to a specific, stressful life event that has occurred in the last 12 months (Moos, 1993). Forty-eight of these items address specific coping responses an individual may use to deal with the stressful event, while the remaining 10 items address their cognitive appraisals regarding the event. Coping responses are recorded on a four- point scale, where a score of 1 indicates that the person uses that coping strategy "*not at all*", and a score of 4 indicates that they use that strategy "*fairly often*". The CRI addresses four domains of coping, each of which is divided into two subscales. These domains are: Cognitive Approach coping (made up of Logical Analysis and Positive Reappraisal), Cognitive Avoidance coping (made up of Cognitive Avoidance and Resigned Acceptance), Behavioural Approach coping (Support Seeking and Problem Solving), and Behavioural Avoidance coping (Seeking Alternative Rewards and Emotional Discharge) (Chung et al., 2001). The domains of

interest in the present study were those of Cognitive Avoidance and Behavioural Avoidance coping.

The CRI has demonstrated moderate internal consistencies for item sets that define each of the eight associated subscales (alpha = .58 - .74; Moos, 1993) and the scale's total score (alpha = .65 for women and .67 for men; Moos, 1997). Test-retest reliability was found to be moderate over a 12-month follow-up period (r = .45 for males and r = .43 for females).

The convergent validity of the CRI has been investigated in a number of studies. Moos and colleagues (1990) found that problem drinkers were more likely to use cognitive and behavioural avoidance techniques (as measured by the CRI) to cope with life stresses compared to non-problem drinkers. Furthermore, problem drinkers who relied more on avoidant coping methods generally reported more drinking problems, depression and physical symptoms, and lower self-confidence compared to those who used more approach-oriented coping methods. Similarly, Avants, Warburton and Margolin (2000) found that individuals with substance dependence used significantly more avoidant coping strategies and significantly fewer approach strategies compared to non-dependent individuals. These researchers also found that individuals with a diagnosis of major depression used more avoidant coping strategies compared to non-depressed individuals. These findings are consistent with the hypothesis that maladaptive coping methods play a central role in the emergence and maintenance of psychopathology (Ball & Lee, 2000; Hayes et al., 1996; Summerfeldt & Endler, 1996).

COPE. The COPE is a 60-item self-report questionnaire that assesses the way(s) in which individuals cope with stress. Coping responses are recorded on a four-point scale, where a score of 1 indicates that "*I usually don't do this at all*", and a score of 4 indicates that "*I usually do this a lot*". Responses are divided into 13 conceptually distinct subscales developed on the basis of either theoretical grounds or empirical validation (Carver et al., 1989). The COPE can be used to assess coping responses to a specific stressor or time period, or to assess dispositional or general patterns of coping responses. The present study utilised the dispositional version of the COPE.

The internal consistency of the COPE subscales have been found to be moderate to high, with Cronbach's alpha coefficients ranging from .45 to .92 (Carver et al., 1989). Two samples of college students were used to examine test-retest correlation. Over a six and eight week period, correlations ranged from .46 to .86, and .42 to .89, respectively (Carver et al., 1989). Carver and colleagues concluded that the COPE subscales were relatively stable, but did not appear as stable as personality traits.

PANAS. The PANAS is a 20-item self-report instrument that measures positive and negative affect. Items are scored on a 5-point Likert scale, where a score of 1 refers to feeling a given way "*very slightly or not at all*", and a score of 5 refers to feeling this way "*extremely*". The PANAS consists of two 10-item subscales, Positive Affect (PA) and Negative Affect (NA). The internal consistency reliabilities are high for both the PA (alpha = .86 - .90) and NA (alpha = .84 - .87) subscales (Watson, Clark & Tellegen, 1988).

The PANAS can be used with a number of specified time period instructions. The instructions for the PANAS can be altered to direct participants to "*Indicate to what extent...*": "*you feel this way right now, that is, at the present moment*" (moment instructions), "*you have felt this way today*" (day instructions), "*you have felt this way during the past few days*" (few days instructions), "*you have felt this way during the past week*" (week instructions), "*you have felt this way during the past few weeks*" (few weeks instructions), "*you have felt this way during the past year*" (year instructions), or "*you generally feel this way, that is, how you feel on the average*" (general instructions). The present study utilised the 'few weeks' instructions for the questionnaire version of the PANAS, and the 'moment' instructions for the behavioural memory test version. The 'few weeks' were used to provide a more general measure of participants' moods, while the 'moment' instructions were used to provide a measure of current affect. Internal consistency reliabilities have been shown to be unaffected by the time instructions used (Watson et al., 1988).

Test-retest reliability over an eight-week period has been established. Watson et al. (1988) obtained reliability coefficients of .47 to .68 across the range of time instructions for the PA scale, and .39 to .71 for the NA scale. Watson and colleagues concluded that the temporal stability of the PANAS was sufficiently high to suggest that the scale could be used as a trait or dispositional measure of affect.

The convergent and discriminant validities of the PANAS have also been established. Watson and colleagues found a strong positive correlation between PANAS-NA and BDI scores in a student sample, and a significant negative

correlation between PANAS-PA scores and scores on the BDI. Strong correlations were also obtained between the NA scores and unpleasant feelings associated with anxiety as measured by the well-validated State-Trait Anxiety Inventory, State Anxiety Scale (STAI A-State; Spielberger, Gorsuch, & Lushene, 1970). Similarly, a significant association between PA scores and pleasant A-State items was observed (Watson et al., 1988).

PDS. The Paulhus Deception Scale (PDS) was formerly known as the Balanced Inventory of Desirable Responding, and consists of 40 items designed to measure the tendency to give socially desirable responses (Paulhus, 1984). The PDS assesses two constructs; self-deceptive enhancement (SDE), or the tendency to provide self-reports that are truthful but biased in a positive way; and impression management (IM), or the tendency to give inflated self-descriptions in order to appear favourably to others. The first 20 items of the PDS measure SDE, while the remaining 20 items assess IM.

The PDS items are presented as 40 propositions. Participants are instructed to rate these propositions on a 7-point Likert scale. A score of 1 indicates that the item is "*Not true*" of the respondent, while a score of 7 indicates that the item is "*Very true*". The scoring key of the PDS is balanced, such that 20 of the items are reverse-scored. Once reverse-scoring is completed, one point is added for each extreme response (ie. responses of 6 or 7). The scoring range for the SDE and IM scales is, therefore, 0 to 20.

The internal consistencies (alphas) of the PDS item sets have been reported as .68 - .80 for SDE, and .75-.86 for IM. The internal consistency for the overall PDS item set is .83. Test-retest reliability correlations over a five week period were .69 for the SDE scale and .65 for the IM scale (Paulhus, 1984). The PDS demonstrated concurrent validity as a measure of socially desirable responding, as indexed by correlations of .71 with the widely used Marlowe-Crowne Social Desirability Scale and .80 with the Multidimensional Social Desirability Inventory (Paulhus, 1991).

Procedure

Participants were recruited via responses to advertisements posted on campus, verbal recruitment from undergraduate psychology laboratory announcements, and internal university electronic mail. Individuals interested in participating expressed this interest either verbally to the experimenter, via electronic mail, or by collecting an envelope of questionnaires.

Participants were invited to take away an envelope of questionnaires from either a stand located in the University of Canterbury library foyer, a box outside the experimenter's office within the psychology department, or from undergraduate psychology laboratory classes. Each envelope contained an information sheet (found in Appendix C) and consent form, and a copy of the YRAI, AAQ, COPE, CRI, PANAS and PDS questionnaires. The order of these questionnaires was randomised within each envelope.

Sealed boxes were placed in the University of Canterbury library foyer and outside the experimenter's office for participants to place completed questionnaires. From a total of 300 envelopes that were distributed, 97 (32%) were not returned and five (2%) were returned uncompleted, yielding an overall 66% response rate. Those participants who completed the questionnaires returned them within approximately one week.

Participants were contacted via electronic mail approximately three weeks after completion of the first set of questionnaires, thanked for their participation to date, and asked to contact the experimenter (via electronic mail) to arrange a mutually suitable time to complete the memory task and to collect the second set of questionnaires. A total of 93 participants made contact with the experimenter and arranged to complete the memory task and second questionnaire administration. The memory task template can be found in Appendix D.

Behavioural memory task. Participants who returned for the second questionnaire administration and memory task carried out the memory task individually in the experimenter's office, a quiet, well lit room with no distractions. Participants were asked to complete the PANAS with "at the moment" instructions (Appendix E; Watson, Clark & Tellegen, 1988) immediately prior to completion of the memory task in order to assess state mood. This procedure was a partial replication of that utilised by Myers and Brewin (1994), and was carried out to assess the potential influence of current mood state on the number and type (positive or negative) of memories recalled. Memory research has clearly demonstrated that recall

of emotionally-charged memories is enhanced when individuals are in a congruent emotional state (Anderson, 1995).

Following completion of the PANAS, participants completed a two-minute free recall task in which they were instructed to think of as many memories as possible from their childhood (prior to age 14). They were asked to write down a word or phrase to remind them of the memory (in case they recalled the same memory more than once), and to rate the unpleasantness of the memory on a seven point Likert scale (where a score of 1 indicated that the memory was "*extremely negative*" and a score of 7 indicated that the memory was "*extremely positive*". Participants were also asked to record their age at the time of each memory generated. This paradigm was a partial replication of that employed by Myers and Brewin (1994); however, their study allowed participants one minute of free recall while the present study used a two minute time period in order to increase variability in the data among participants.

After completion of the memory task, participants were thanked and given an Instant Kiwi scratch lottery card for their time, along with the second set of questionnaires. They were asked to return the completed questionnaires to either the experimenter's office or to a sealed box in the University of Canterbury library foyer. Participants completed these questionnaires an average of 7.11 days after the memory task (*SD* = 2.81, *range* = 1-15 days), and an average of 34.01 days after completing the first set of questionnaires (*SD* = 5.30, *range* = 22-47 days). At the conclusion of their involvement in the study, all participants were given a debrief sheet which outlined the true purpose of the present study, and were given the option of

withdrawing from the study if they wished. No participants withdrew from the study. The debrief sheet template can be found in Appendix F.

Once all data was collected across all participants, participant code numbers were placed in a draw for five prizes of $50 cash. Winners were contacted via electronic mail.

Results

Comparisons Between Original and Retest Samples

Demographic data (age and sex) of the original and retest samples were examined prior to commencing data analysis. One-way analysis of variance (ANOVA) indicated no significant difference between the average age of participants in the original sample compared to the retest sample, $F(1,196) = .03$, *ns*, $R^2 = .00$.

To evaluate whether the retest sample was representative of the original sample in terms of sex distribution, a chi-square test was performed. Results from this analysis indicated that there was a significant departure in the expected distribution for participant sex among the retest sample when referenced to the original sample, $?^2$ $(1,93) = 30.02$, $p<.001$. Whereas 42% of the original sample were male and 58% female, only 22% of the retest sample were male and 78% female. As a result, the regression analyses that follow will statistically control for the effects of participant sex in the prediction of memory task data.

Descriptive Statistics

Descriptive statistics for all coping measures, the PANAS subscales and the PDS are provided in Table 1. These data pertain to the first questionnaire administration. The sample mean for the YRAI was 118.02 ($SD = 17.56$), while the sample mean for the AAQ was 122.94 ($SD = 16.33$). No published means and standard deviations for the YRAI or the 32-item version of the AAQ could be located,

which precluded a comparison between findings of the present study and other studies.

The sample mean for the COPE measure, with the Alcohol and Drug Use and Humour subscales removed, was 124.83 (SD = 13.99). These subscales were removed to allow direct comparison with research by Carver et al. (1989). At the time of scale construction, Carver and colleagues had not validated the Alcohol and Drug Use subscale, or included the Humour subscale in the overall scale. The sample mean reported above was slightly lower than the mean score for the student sample obtained by Carver et al. (1989) of 132.25 (SD = 9.94).

The sample mean for the CRI-Total was 69.54 (SD = 17.27), which was comparable to adult sample data presented by Moos (1993) for males (M = 63.39, SD = 11.72), and for females (M = 68.5, SD = 11.52). The fact that the sample mean for the present study is more closely aligned with the mean for females reported by Moos (relative to the mean for males) may reflect the larger proportion of females (58%) compared to males (42%) in the present study.

The sample mean for the PDS was 9.16 (SD = 5.01), comparable to research by Paulhus (1994) with a student sample (M = 11.9, SD = 4.50).

The sample mean for the PANAS-PA scale (M = 33.90, SD = 6.56) was comparable to that reported other studies. For example, Watson et al. (1988) obtained a mean score of 32.00 (SD = 7.00) with student samples (N = 586). Similarly, Watson and colleagues obtained a mean score of 19.50 (SD = 7.00) for the PANAS-NA scale,

while the present study obtained a mean score of 22.45 (*SD* = 7.15).

The skew and kurtoses of the scale distributions obtained for the present sample were within acceptable limits, with the exception of the PDS, the distribution of which was kurtotic and skewed in a positive direction. This finding was expected given the constructs this scale assessed.

Table 1
Descriptive Statistics Associated With Coping, Affect, and Social Desirability Measures: First Administration

Scale	*N*	*M*	*SD*	*Mdn*	*Range*	*Skew*	*Kurtosis*
YRAI	197	118.02	17.56	118	72 to 166	.07	-.30
AAQ	191	122.94	16.33	121	75 to 163	.23	-.28
COPE	195	140.09	13.99	141	93 to 180	.06	-.18
CRI – Total	161	69.54	17.27	69	25 to 113	.39	-.27
CRI-Avoidant	172	27.48	10.85	27	1 to 52	.00	-.66
CRI –Approach	173	41.27	10.61	42	9 to 64	-.24	-.18
PDS	186	9.16	5.01	8	1 to 34	1.26	3.20
PANAS-PA	198	33.90	6.56	34	14 to 50	-.20	.28
PANAS- NA	196	22.45	7.15	22	10 to 44	.62	-.24

*Note. N*s vary across scales as a result of missing data. YRAI = Young Rygh Avoidance Inventory; AAQ = Acceptance and Action Questionnaire; CRI = Coping Responses Inventory; PDS = Paulhus Deception Scales; PANAS-PA = Positive and Negative Affect Scale – Positive Affect subscale; PANAS-NA = Positive and Negative Affect Scale – Negative Affect subscale.

A series of one-way ANOVAs were performed to examine for sex differences in scores on the YRAI, AAQ, COPE, CRI-Total, CRI-Approach subscale and CRI-Avoidant subscale. No significant differences were obtained on the YRAI, $F(1,195) = 3.77$, *ns*, $R^2 = .02$; the AAQ, $F(1,189) = 1.27$, *ns*, $R^2 = .01$; the COPE, $F(1,193) = 6.47$, *ns*, $R^2 = .03$; the CRI-Total, $F(1,159) = 10.90$, *ns*, $R^2 = .06$; or the CRI-Avoidant Subscale, $F(1,170) = 2.93$, *ns*, $R^2 = .02$. A significant difference was obtained for the CRI-Approach subscale, $F(1,171) = 11.27$, $p<.05$, $R^2 = .06$. The mean score obtained by males on this subscale was 38.19 (*SD* = 8.88), while females obtained a mean

score of 43.52 (*SD* = 11.24).

Analysis of the relationships between age of participants and scores on the aforementioned coping measures was then performed. In no instance was age significantly correlated with scores on any of the coping measures. However, a marginally significant positive correlation was found between age and scores on the CRI-Total, $r = .15$, $p = .06$. This finding suggests that with increasing age, participants in this study either utilised a greater range of coping strategies to manage distress, or engaged in coping responses more frequently.

Reliability

Internal consistency. Internal consistency analyses were performed on the YRAI, AAQ, COPE, CRI, PA and NA scales of the PANAS, and the PDS. The PANAS PA (a = .83) and NA (a = .83) demonstrated adequate levels of internal consistency, while the PDS (a = .68) displayed moderately low levels of internal consistency. With the exception of the CRI, the coping measures unexpectedly exhibited moderately low levels of internal consistency. These scales also contained items that detracted from the internal consistency of the scales to which they belonged. Some items within the YRAI, AAQ and COPE measures also demonstrated negative corrected item-to-total correlations.

Due to the unexpectedly low and often inadequate levels of internal consistency among coping measures, a series of analyses were carried out to eliminate poorly performing items associated with each of the coping measures in order to

maximise scale reliability. For these analyses, items that detracted from the overall internal consistency of a given coping measure were sequentially removed, one at a time, until internal consistency was maximised. The results of this process are presented in Table 2, with maximised internal consistencies displayed in parentheses. Analyses that follow will report correlations with both the unmodified (original) and modified (with detractors removed) versions of these scales.

Table 2
Internal Consistency Analyses of All Coping Measures

Scale	Total Items in Scale	a	Detractors
YRAI	40	.78	29,40,3,4,34,5,9,17,35 (.82)
AAQ	32	.76	1,14,23,5,26,12,2,11,7,20 (.86)
COPE	60	.76	53,16,12,24,6,10,37,31,17,9,35,26,3,15,57,56,40, 2,13,21,43 (.85)
CRI	48	.83	30 (.84)

Test-retest reliability. A total of 93 participants (20 males, 73 females) from the original sample of 198 participants (47% of the total sample) completed questionnaires during the two test administrations, and were included in the test-retest reliability analysis of the YRAI, AAQ, COPE, and the CRI-Approach and CRI-Avoidant subscales. Due to instances of missing data, participant numbers associated with the reliability analyses ranged from 87 to 93. The average test-retest interval was 34.01 days (SD = 5.30, range = 22-47 days).

Test-retest reliability of unmodified (original) scale scores. Significant correlations for the original and retest scale scores were obtained for the YRAI, r = .89, p<.01; the AAQ, r = .91, p<.01; the COPE, r = .84, p<.01; and the CRI, r = .77,

$p<.01$. Sample sizes ranged from 161 to 198 for the original sample, and from 87 to 93 for the retest sample.

Test-retest reliability of individual items. As the present study was primarily focused on the psychometric properties of the YRAI and the AAQ, item-level test-retest analyses were undertaken. Item pairs on both measures correlated significantly and in a positive direction over the retest interval (range of item reliability coefficients: .64 to .94 for the YRAI; .49 to .87 for the AAQ; median item reliabilities were .77 for the YRAI and .73 for the AAQ).

Test–retest reliability of modified (detractors removed) scale scores. Significant correlations for the original and retest modified scale scores were obtained for the YRAI, $r = .90$, $p<.01$; the AAQ, $r = .90$, $p<.01$; the COPE, $r = .86$, $p<.01$; and the CRI, $r = .79$, $p<.01$. Minimal differences were noted between these values and those reported above for the unmodified scales. Sample sizes ranged from 161-198 for the original sample, and from 87-93 for the retest sample.

Validity

Convergent validity. Significant positive correlations were obtained among the YRAI and the AAQ, CRI-Total, CRI-Avoidant subscale, and PANAS-NA scale, as shown in Table 3. The AAQ also correlated significantly with the CRI-Total, CRI-Avoidant subscale, and the PANAS-NA scale. These results provide support for the hypotheses of this study, and will be examined in more detail in the Discussion section that follows. Unexpectedly, no relationship was found between either the

YRAI or the AAQ with the COPE measure. Significant positive correlations were also obtained among the CRI-Approach subscale and the CRI-Total, the CRI-Avoidant subscale, the COPE, the PANAS-PA scale, and the PDS.

Divergent validity. Significant negative correlations were evident between the YRAI and the PDS, and between the AAQ and the PDS.

Table 3
Correlations Among Coping, Affect, and Social Desirability Measures

Scale	AAQ	COPE	CRI-T	CRI-Ap	CRI-Av	PDS	PANAS-PA	PANAS-NA
YRAI	.58**	.04	.32**	-.02	.50**	-.16*	-.28**	.22**
AAQ		.08	.31**	-.07	.55**	-.25**	-.33**	.43**
COPE			.39**	.41**	.17*	.15*	.33**	-.03
CRI-Total				.77**	.77**	.03	.13	.24**
CRI-Approach					.18*	.21**	.28**	-.03
CRI-Avoidant						-.17*	-.12	.44**
PDS							.31**	-.27**
PANAS-PA								-.19*

Note. ** = significant at $p<.01$; * = $p<.05$. CRI-T = CRI-Total; CRI-Ap = CRI-Approach; CRI-Av = CRI-Avoidant.

Partial correlation analyses were also undertaken to remove the influence of social desirability on the correlations among coping measures displayed in Table 3. The rationale for this procedure was that previous research had indicated that individuals with a repressive or avoidant coping style tended to score highly on measures of social desirability compared to individuals without this coping style (Ashley & Holtgraves, 2003). This observation is also partially consistent with findings reported in Table 3.

Once this influence was removed, the greatest change occurred in the correlation between the PANAS-PA and PANAS-NA scales, which was originally -

.19 (p<.05), but decreased to -.10 (p = .19) once the influence of social desirability was statistically removed.

Correlations among unmodified and modified measures. Participants' scores on the original (unmodified) scales were correlated with scores on the revised scales in which negative detractors had been removed (modified scales) to examine the relationships between original scale scores and more internally consistent measures of coping. These correlations are presented in Table 4.

Significant high correlations were obtained among the original and modified versions of each measure. These correlations are bolded in Table 4, and suggest that removal of detractor items from each scale did not adversely affect the construct validity of the scales.

Table 4
Correlations Among Unmodified Coping Measures and Modified Versions with Detractors Removed

Scale	YRAI(m)	AAQ(m)	COPE(m)	CRI(m)	CRI-Ap(m)	CRI-Av(m)	PDS(m)
YRAI	**.96****	.63*	-.14	.31*	-.02	.49**	-.14
AAQ	.68*	**.96****	-.13	.32*	-.07	.56**	-.23*
COPE	.01	.05	**.90****	.38*	.41**	.16*	.15*
CRI-Total	.38*	.30*	.33*	**1.00****	.77**	.78**	.07
CRI-Approach	-.01	-.06	.50*	.78*	**1.00****	.20*	.23*
CRI-Avoidant	.58*	.59*	-.00	.76*	.18*	**.99****	-.14

Note. ** p<.01; * p<.05. The letter 'm' in parentheses refers to the modified version of the measure. PANAS-PA and PANAS-NA scales had no detractor items. Correlations for scale scores derived from the same measures are bolded.

Partial correlation analyses were undertaken to remove the influence of social desirability on the correlations displayed in Table 4. Once this influence was removed, the greatest change occurred in the correlation between the CRI-Approach and AAQ(m) scales, which was originally -.06 (*ns*) but changed to .04 (*ns*) once the

influence of social desirability was statistically removed. Overall, the removal of the influence due to social desirability produced only very minimal changes in the patterns of intercorrelations observed among the coping measures.

Correlations among modified coping and social desirability measures. Participants' scores on the modified versions of the YRAI, AAQ, COPE, and PDS were correlated to examine the associations between more internally consistent measures of coping and social desirability. These correlations are presented in Table 5. Consistent with the original scale correlations, significant positive correlations were obtained among the YRAI(m) and the AAQ(m) and CRI-Total(m) scales. Similarly, significant correlations were found between the YRAI(m), AAQ(m), and COPE(m), and the PDS(m). Unlike the original scale correlations, the correlations between the YRAI(m) and AAQ(m) and the COPE(m) attained significance once detractor items were removed. These correlations were negative, and were expected given the constructs these scales measure. This issue is further elucidated below.

Table 5
Correlations Among Modified Coping and Social Desirability Measures (Detractors Removed)

Scale	AAQ(m)	COPE(m)	CRI-Total(m)	PDS(m)
YRAI(m)	.73**	-.19**	.38**	-.20**
AAQ(m)		-.17*	.31**	-.32**
COPE(m)			.32**	.26**
CRI-Total(m)				.07

Note. The PANAS-PA and PANAS-NA scales are not reported, as no detractors were evident in these scales. ** $p<.01$; * $p<.05$.

Finally, partial correlation analyses were undertaken to remove the influence of social desirability on the correlations displayed in Table 5. Once this influence was removed, the greatest change occurred in the correlation between the CRI(m) and

AAQ(m) scales, which was originally .31 ($p<.01$) but increased to .38 ($p<.01$) once the influence of social desirability was statistically removed.

Memory Task

Participants' scores on the coping measures were correlated with performance across a number of variables from the memory task described earlier. The memory task was included in the present study to allow comparisons to be drawn with the findings of Myers and Brewin (1994) and others (eg. Davis & Schwartz, 1987) that individuals with a repressive or avoidant coping style recalled significantly fewer negative memories than non-avoidant individuals, and that the age of earliest negative memory was significantly greater in repressors than non-repressors. Correlations between coping measures (YRAI, AAQ, COPE and CRI-Avoidant subscale; both unmodified (labelled 'r') and modified (labelled 'rm') retest scores) and all memory task data are provided in Table 6. The retest scores on the coping measures were used in favour of original questionnaire data because they were temporally closer to the memory task administration.

Unmodified retest scale results. A significant negative correlation between YRAIr scores and the variable *total number of memories generated* was obtained (r = -.20, $p<.05$). Similarly, significant negative correlations were found between YRAI retest scores and the variable *number of positive memories generated* (r = -.23, $p<.05$), and between AAQ retest scores and *total number of memories generated* (r = -.21, $p<.05$). These results indicate that higher avoidance scores on the YRAI(r) and AAQ(r) measures are associated with reductions in total number of memories being

generated, and unexpectedly, reductions in the number of positive memories being generated in the case of the YRAI(r). Finally, a significant negative association was found between CRI-Avoidant subscale scores and *number of negative memories generated* ($r = .22$, $p<.05$). This finding indicates that greater avoidance scores on the CRI are associated with lower numbers of negative memories being generated, and is consistent with one of the central hypotheses of this study. The present study hypothesised that individuals with an avoidant coping style would generate fewer negative memories compared to less avoidant individuals.

Table 6
Correlations Between Coping Measures (Unmodified and Modified Retest) and Memory Task Data

Scale	YRAI (r)	AAQ (r)	CRI-Av (r)	COPE (r)	YRAI (rm)	AAQ (rm)	CRI-Av (rm)	COPE (rm)
Positive Memories	-.23*	-.19	-.04	-.01	-.20*	-.24**	-.05	.05
Negative Memories	-.01	-.04	-.22*	.14	-.03	-.08	-.23**	.16
Total Memories	-.20*	-.21*	.10	.03	-.19	-.28**	.10	.09
Age Earliest Positive	.15	.07	-.03	.04	.13	.15	-.03	.01
Age Earliest Negative	.17	.06	-.03	-.13	.14	.09	-.04	-.15
Avg. Age Positive	.06	.03	.05	.09	.09	.07	.04	.05
Avg. Age Negative	.14	-.05	.01	-.13	.11	.00	-.01	-.13
Avg. Age All Memories	.16	-.01	.05	-.03	.14	.04	.04	-.06
Avg. Pleasantness (Positive)	-.02	-.05	-.10	-.09	-.02	-.05	-.10	-.05
Avg. Pleasantness (Negative)	.08	.07	-.06	-.19	.09	.03	-.07	-.14
Avg. Pleasantness (All)	-.11	-.06	-.13	-.08	-.09	-.08	-.14	-.03

Note. Positive Memories = number of positive memories generated, Negative Memories = number of negative memories generated, Total Memories = total number of memories generated, Age Earliest Positive = age of earliest positive memory, Age Earliest Negative = age of earliest negative memory generated, Avg. Age Positive = average age of all positive memories, Avg. Age Negative = average age of all negative memories, Avg. Age All Memories = average age of all memories generated, Avg. Pleasantness (Positive) = average pleasantness of positive memories, Avg. Pleasantness (Negative) = average pleasantness of negative memories, Avg. Pleasantness (All) = average pleasantness of all memories. YRAI(r) = YRAI retest data, AAQ(r) = AAQ retest data, CRI-Av(r) = CRI-Avoidant subscale retest data, 'rm' in parentheses indicates retest data for modified versions of each coping scale. **= $p<.01$; * = $p<.05$.

Modified retest scale results. Results from the modified retest scale analyses largely paralleled those from the unmodified retest analyses. Significant negative correlations were obtained between YRAI(rm) scores and *number of positive memories generated* (r = -.20, p<.05), AAQ(rm) scores and *number of positive memories generated* (r = -.24, p<.01), and between AAQ(rm) scores and *total number of memories generated* (r = -.28, p<.01). Similarly, a significant negative correlation was obtained between CRI-Avoidant subscale(rm) scores and *number of negative memories generated* (r = .23, p<.01).

Regression Analyses

Regression analyses with unmodified scales. Regression analyses were conducted to examine whether the retest scores of the coping measures listed above were able to predict either the percentage of negative memories generated by participants or the age of participants' first negative memory as assessed by the memory task. These variables were examined as they related to findings by Myers and Brewin (1994) in relation to the recall of negatively valenced emotional memories by avoidant copers.

Hierarchical regression analyses examined, in order of entry into the regression model, the role of participant sex (in order to control for sampling inequalities related to sex), negative affect at the time participants completed the memory test, social desirability, and scores on coping measures. Separate analyses were run for each coping measure, as well as for each dependent variable, specifically

the percentage of negative memories generated and age associated with the earliest negative memory.

In the prediction of the variable *percentage of negative memories*, no significant findings were obtained for the YRAI, the AAQ, the COPE, or the CRI-Approach and CRI-Avoidant subscales (with both subscales entered on the same step) once the effects of participant sex, negative affect, and social desirability had been removed.

In the prediction of the variable *age at first negative memory*, no significant findings were obtained for the YRAI, the AAQ, the COPE or the CRI-Approach and CRI-Avoidant subscales (both entered on the same step) after the effects of participant sex, negative affect, and social desirability were removed. However, negative affect, entered as the second step in the regression analyses, significantly or marginally significantly predicted age at first negative memory, $?R^2$s = .07-.08, *p*s<.06. Fluctuations in the percentage of variance accounted for by the negative affect variable across analyses were due to differences in sample sizes across analyses due to missing data (range: 161-198 participants per analysis).

The above regression analyses were then rerun with the PDS subscales (self-deception and impression management) entered separately, but in the same step in the analyses. This procedure replicated Ashley and Holtgraves (2003), who suggested that contrary to prior research, self-deception may be more strongly associated with repression or avoidant coping than either impression management or social

desirability as a whole. No significant influence of either self-deception or impression management was revealed.

Regression analyses with modified scales. Due to the presence of items that detracted from the internal consistency of the scales to which they belonged, the above regression analyses were rerun with the modified versions of the scales. That is, modified versions of these scales were constructed whereby the detractor items were removed. A highly similar pattern of results was obtained from these analyses. No significant findings were obtained for any of the coping measures after the effects of participant sex, negative affect, and social desirability were removed.

Factor Analyses

Factor analyses of coping measure item sets: Unmodified data sets. Four separate factor analyses, one for each item set associated with the four coping questionnaires utilised in this study, were performed in order to elucidate the degree of factorial complexity associated with each measure. For each analysis, factors were extracted in accordance with the eigenvalue > 1.0 rule and component matrices were derived from varimax (orthogonal) rotation procedures. As evident in the left side of Table 7, the number of factors extracted across the four measures equalled or exceeded 10 in each instance. Despite the large number of factors obtained through this procedure, the percentages of cumulative variance accounted for by the factor solutions was relatively moderate given the ratio of the number items entered into the analysis to the number of factors extracted.

Factor analyses of coping measure item sets: Modified data sets. Four additional factor analyses of the coping measure items sets were performed, with detractor items associated with each scale removed. These analyses were performed in order to determine if the factorial complexity of each of the coping measures would be reduced as a result of the exclusion of detractor items associated with each measure. As displayed in the right side of Table 7, the coping measures continued to be associated with a relatively large number of factors that accounted for only moderate proportions of item variances within scales.

Table 7
Factor Analyses of Unmodified and Modified Coping Measure Item Sets

	Unmodified Item Set			Modified Item Set		
Scale	Number of Items	Number of Factors	Percent of Cumulative Variance	Number of Items	Number of Factors	Percent of Cumulative Variance
YRAI	40	12	66.40	31	10	66.33
AAQ	32	10	65.27	22	6	61.22
CRI	48	16	69.43	47	15	68.00
COPE	60	17	73.22	39	10	69.12

Discussion

The primary aim of the present study was to investigate the psychometric properties of two relatively new measures of avoidant coping, the Young-Rygh Avoidance Inventory (YRAI) and the Acceptance and Action Questionnaire (AAQ). A student sample consisting of 198 participants completed a set of questionnaires containing the YRAI and AAQ, along with two more established measures of coping (the COPE and the CRI), a measure of positive and negative affect (the PANAS), and a measure of social desirability (the PDS). An average of 27 days following the first questionnaire administration, 93 participants returned to complete a brief memory test designed to distinguish avoidant copers from non-avoidant copers, then collected and completed a second, identical set of questionnaires to the first.

A number of hypotheses were examined in the present study. Central hypotheses were that the YRAI and AAQ would demonstrate sound internal consistency, test-retest reliability, convergent validity, and divergent validity.

Unexpectedly, the YRAI and the AAQ demonstrated only moderate levels of internal consistency (.78 and .76 respectively). Whilst these values were lower than would be recommended for research and practical purposes (Nunnally & Bernstein, 1994), similar results for the AAQ were reported by Bond and Bunce (*in press*; r = .79 and r = .72 across two time periods). In addition, a comparable value was obtained for the COPE scale (.76) in the present study, suggesting that the YRAI and the AAQ performed similarly in comparison to a more established measure of coping. The COPE has been one of the most widely used scales in coping research since its initial

development (Carver et al., 1989). The internal consistency displayed by the COPE in the present study was consistent with other research. For example, Parker and Endler (1992) found alpha reliabilities of .45 to .92 across all COPE subscales. The CRI was the only coping measure to achieve an adequate level of internal consistency (.83). This finding was greater than that obtained in previous research. For example, Moos (1993) found alpha reliabilities of .61 to .74 for males across all subscales of the CRI, and .58 to .71 for females. Nevertheless, comparisons between these findings should be interpreted with caution, as the Moos (1993) results were based on a combined clinical and non-clinical sample. In addition, internal consistency estimates for both the COPE and CRI subscale totals would have been reduced due to the reduced number of items in these analyses compared to analyses of the scale totals as a whole. Literature searches were unable to locate internal consistency values for the total scale scores of the COPE or the CRI. The PANAS-PA scale (α = .83) and PANAS-NA (α = .83) scale displayed adequate levels of internal consistency that were consistent with prior research. For example, Watson et al. (1988) found alpha reliabilities of .87 for both the PANAS-PA and PANAS-NA scales with a student sample. The PDS (α = .68) demonstrated moderately low internal consistency. This finding was somewhat lower than that reported elsewhere. For example, Paulhus (1991) reported an alpha reliability of .83 based on a number of student samples. The reason for the low internal consistency finding in the present study is unclear. The possibility that some items on the PDS may be less culturally relevant in a New Zealand sample was considered, however no culturally biased items were evident in the scale.

Results indicated that the YRAI, AAQ, and COPE scales each contained a number of items that detracted from the overall internal consistency of each scale,

thus providing one possible explanation for the moderate findings reported above. One detractor item was found in the CRI scale. Further analyses sequentially removed these detractor items in order to maximise the internal consistency of each coping scale. This resulted in a modified 31-item version of the YRAI ($\alpha = .82$), a 22-item version of the AAQ ($\alpha = .86$), a 39-item version of the COPE ($\alpha = .85$), and a 47-item version of the CRI ($\alpha = .84$). Subsequent analyses (reported below) investigated the psychometric properties of both the unmodified and modified versions of each coping measure.

The test-retest reliabilities of the YRAI and the AAQ were examined by asking a subset of participants from the original sample ($N = 93$) to complete the questionnaires on two occasions, with an average test-retest interval of 34 days. Correlations between participant scores on both measures across this interval were high ($r = .89$ and $r = .91$ respectively), suggesting that participants' responses were stable across time. These findings were consistent with the notion that coping in general, and avoidant coping in particular, could be considered dispositional or trait-like in nature (Schwartz, Neale, Marco, Shiffman, & Stone, 1999). Similarly, high test-retest reliabilities were obtained for the COPE ($r = .84$) and the CRI ($r = .77$). Removal of detractor items from these scales resulted in no appreciable changes in test-retest reliability across coping measures.

Construct Validity of YRAI and AAQ

The construct validities of the YRAI and the AAQ were examined with a number of methods. Firstly, the concurrent validities of the YRAI and the AAQ were

assessed by correlating participants' scores on these measures with each other, with scores on the CRI-Avoidant subscale, and with scores on the PANAS-NA scale. Secondly, participants' scores on the YRAI and the AAQ (along with the other coping measures) were correlated with data from the memory task to investigate predictions regarding the recall of negatively valenced autobiographical information. These predictions were based on findings from other research (Ashley & Holtgraves, 2003; Myers & Brewin, 1994), and are discussed in more detail below. Finally, the divergent validities of the YRAI and the AAQ were assessed by correlating participants' scores on these measures with the PDS, a well-established measure of response distortion.

Significant positive correlations were obtained among the YRAI, AAQ and CRI-Avoidant subscale. The significant association of scores on the YRAI and AAQ with a more established measure of avoidant coping provides support for the convergent validity of these measures. Similarly, significant positive correlations were obtained between the YRAI, AAQ and CRI-Avoidant subscale and the PANAS-NA scale. These findings are consistent with the hypothesis that associations between avoidant coping and negative affect would be found. The basis for this hypothesis was that individuals who possessed an avoidant coping style would avoid dealing actively with their life problems or stressors. As a result, these individuals would experience more negative affect than non-avoidant individuals, as any negative emotion related to their problems would remain unresolved. The association between avoidant coping and negative affect demonstrated in the present study is also consistent with the established links between avoidance and psychological dysfunction. Specifically, a wealth of literature has indicated that an avoidant coping style is associated with

emotional and psychological disorders such as depression (Blalock & Joiner, 2000), anxiety disorders (Andrews et al., 1994), eating disorders (Troop et al., 1994) and substance abuse (Litt et al., 2003). The associations between avoidant coping and negative affect demonstrated in the present study provide further evidence for the convergent validity of the YRAI and the AAQ.

Participants' scores on the YRAI and the AAQ demonstrated no relationship with scores on the COPE. One reason for this finding may be that the COPE detects more approach-oriented coping rather than avoidance. Consistent with this possibility, a significant, although modest, correlation was obtained between scores on the COPE and the CRI-Approach subscale. Additionally, both the COPE and CRI-Approach subscale demonstrated significant associations with the PANAS-PA scale. These findings are consistent with the notion that approach-oriented coping is associated with more positive affective states, as individuals with this coping style have actively addressed the source(s) of any subjective distress (Carver et al., 1989). Taken together, these results suggest that the COPE may assess more approach-oriented, rather than avoidant, forms of coping. Further support for this hypothesis was obtained when modified versions of each coping measure, with detractor items removed to maximise internal consistency, were intercorrelated. Once detractor items were removed, correlations between both the YRAI(m) and AAQ(m) measures and the COPE(m) attained statistical significance (the only notable changes in the pattern of intercorrelations among coping measures). The direction of these relationships was negative, indicating that higher scores on the YRAI and the AAQ were associated with lower scores on the COPE. These findings also suggest that the YRAI and AAQ

modified measures may be assessing a different construct compared to the COPE measure.

The possibility that the COPE may assess approach to a greater extent than avoidance is speculative at present, and requires further research. One issue precluding firm conclusions from being drawn is that the theoretical basis of the COPE lies in the problem-focused versus emotion-focused categorisation of coping. An alternative, approach versus avoidance categorisation system would be required to allow the above theory to be accurately tested. In addition, the present study found significant, modest to moderate correlations between scores on the COPE and scores on both the CRI-Total and CRI-Avoidant subscale scores. One explanation for these findings is that while the COPE may primarily assess approach-oriented coping, this scale also examines avoidant coping responses, although to a lesser degree. Given that the CRI assesses both approach and avoidant coping, this notion is consistent with the pattern of correlations found in the present study among the YRAI and AAQ, the CRI-Total, CRI-Avoidant and CRI-Approach, and the COPE.

Interpretation of Memory Task Results

The present study hypothesised that a significant negative relationship would be found between participants scores on the YRAI and AAQ and the number of negative memories generated in the memory task. Additionally, this study hypothesised that a significant positive relationship would be found between scores on the YRAI and AAQ measures and the age of first negative memory generated in the memory task. These hypotheses were based on previous research (Myers &

Brewin, 1994) which found that individuals with a repressive or avoidant coping style recalled significantly fewer negative memories compared to individuals without this coping style, and that the age of first negative memory was significantly greater in avoidant, compared to non-avoidant, individuals. Analysis of the memory task results used the retest data from the coping measures as these were temporally closer to the memory task compared to original scale data.

The hypothesis that a negative relationship would be demonstrated between participants' scores on measures of avoidant coping and the number of negative memories they generated was not supported in terms of the YRAI and the AAQ. No relationship was found between YRAI or AAQ retest scores and the number of negative memories generated. However, a significant negative correlation was observed between CRI-Avoidant subscale retest scores and the number of negative memories generated. This finding is consistent with the results of other studies (Davis & Schwartz, 1987; Myers & Brewin, 1994), and supports the notion that individuals with an avoidant coping style recall less negative autobiographical information (due to avoidance of this material) compared to less avoidant individuals. Regression analysis was undertaken to re-examine the link between avoidant coping scores and percentage of negative memories generated. In this analysis, the influence of participant sex, negative affect at the time of memory task completion, and social desirability were removed. No significant findings were obtained as a result of this process. This analysis was then rerun with the modified versions of each coping measure to remove the potential influence of detractor items on the aforementioned correlations. The results of this analysis were also non-significant, indicating that the

non-significant results were not due to the presence of detractor items. An interpretation of these findings is presented below.

The hypothesis that a positive relationship would be observed between scores on the YRAI and AAQ measures and the age of first negative memory generated in the memory task was not supported by the results of the present study. In fact, no relationships were evident between any of the coping measures and age of first negative memory. Regression analyses with both the unmodified and modified versions of the coping measures were carried out to further investigate the relationship between avoidant coping scores and age of first negative memory with the same procedure as that described above. No significant findings for the coping measures were obtained from these analyses. However, negative affect (as measured by the PANAS-NA scale) emerged as a significant predictor of age at first negative memory. This result was consistent with prior research into state dependent learning in general (Anderson, 1995) and coping in particular (Ashley & Holtgraves, 2003).

Significant negative correlations were obtained between both the YRAI and AAQ retest scores and the total number of memories generated by participants, indicating that individuals with a more avoidant coping style recalled significantly fewer memories overall compared to less avoidant individuals. In addition, a significant negative correlation between YRAI retest scores and the number of positive memories generated was found. A similar, although non-significant, association was also found between AAQ retest scores and the number of positive memories generated. These findings suggest that more avoidant individuals recalled less positive memories compared to less avoidant individuals. No appreciable

differences in the associations between participants' scores on coping measures and memory task performance were noted when modified coping scale scores were analysed. In addition, no significant associations between participants' scores on the COPE and any memory task variables were obtained. One possible explanation for the above pattern of findings is that individuals with an avoidant coping style may exhibit a deficit in general recall of autobiographical memories. However, the avoidant coping literature has not investigated this possibility, and further studies would be required to allow firm conclusions to be drawn.

Overall, the memory task results of the present study are inconsistent with the findings of Myers and Brewin (1994). Myers and Brewin found significant associations between repressive or avoidant coping and both the number of negative memories generated and the age of participants at first negative memory, and no differences between repressors and non-repressors in the number of positive memories recalled. As outlined above, no associations were found between scores on the YRAI, the AAQ, or the COPE and either the number of negative memories generated, or age at first negative memory. A significant correlation was obtained between scores on the CRI-Avoidant subscale and number of negative memories generated. This association is consistent with the findings of Myers and Brewin (1994) and others (Ashley & Holtgraves, 2003). However, this association was not robust. After removal of the influence of participant sex, negative affect, and social desirability, the CRI-Avoidant subscale no longer accounted for a significant proportion of the variance in the negative memories variable. Significant negative correlations were obtained between YRAI and AAQ scores and total memories

generated, while the association between YRAI and AAQ scores and the number of positive memories generated was also negative.

Possible explanations for these discrepancies include methodological differences between the present study and the Myers and Brewin study, and the possibility that the construct validity of the YRAI and the AAQ is not optimal. The present study allowed participants two minutes of free recall to generate memories, while Myers and Brewin allowed only one minute. It is possible that the use of a longer time period caused the effect of differential recall of negative memory information between avoidant and non-avoidant individuals (found by Myers and Brewin) to diminish. This may suggest that rather than recalling less negative memory information, individuals with an avoidant coping style may simply take longer to access this information compared to non-avoidant individuals. However, this possibility is inconsistent with other research. For example, Ashley and Holtgraves (2003) allowed participants five minutes to recall childhood memories, and obtained results that were consistent with those of other studies (Davis & Schwartz, 1987; Myers and Brewin, 1994). Therefore, it appears unlikely that speed of recall would explain the discrepant findings obtained in the present study.

Another methodological difference between the present study and the Myers and Brewin study relates to the measurement of social desirability. The repression literature has defined repression as a combination of low trait anxiety and high defensiveness. Defensiveness has typically been assessed using a social desirability scale such as the Marlowe-Crowne Social Desirability scale (Myers & Brewin, 1994). However, more recent research has suggested that one aspect of socially desirable

responding, self-deception, demonstrated a stronger association with the repressor construct compared to social desirability as a whole. In addition, the Marlowe-Crowne scale has been criticised as confounding the two constructs that make up social desirability, self-deception and impression management (Ashley & Holtgraves, 2003). Ashley and Holtgraves recommended that the PDS be used in future research, as this measure separated self-deception and impression management, thereby providing a more accurate measure of the repressor construct.

Whilst Myers and Brewin used the Marlowe-Crowne Social Desirability scale in their research, the present study utilised the PDS to assess socially desirable responding. Considered in isolation, this methodological difference may suggest that the present study provides a more comprehensive characterisation of repressors compared to the Myers and Brewin study. However, as outlined below, the present study failed to demonstrate a positive association between avoidant coping and socially desirable responding. In fact, contrary to other studies of repressive or avoidant coping, significant negative correlations were obtained in the present study. The implications of these findings are discussed below.

Another possible reason for the inconsistencies between the memory task results from the present study and those of other studies (Ashley & Holtgraves, 2003; Myers & Brewin, 1994) is that the YRAI and the AAQ may not be adequate measures of the avoidant coping construct. Whilst an expected, significant, negative association between CRI-Avoidant subscale scores and recall of negative memories was obtained in the present study, no association between YRAI or AAQ scores and negative memories was obtained. One interpretation of these findings is that the YRAI and

AAQ measures do not adequately assess the construct they purport to assess, namely avoidant coping, while the CRI-Avoidant subscale does assess this construct. Further evidence for this possibility is discussed below. Nevertheless, regression analyses that controlled for participant sex, negative affect and social desirability influences revealed that the CRI-Avoidant subscale did not predict participants' recall of negative memories. The overall pattern of results from memory task analyses indicates that no robust associations were present between coping measures and memory recall, and that none of the avoidant coping measures were able to significantly predict performance on the memory task.

The divergent validities of the YRAI and the AAQ were examined by correlating participants' scores on these measures with scores on the PDS, an established measure of socially desirable responding (Paulhus, 1984). Significant negative correlations were obtained between both the YRAI and AAQ measures and the PDS. In terms of the other coping measures, significant positive correlations were obtained between the COPE and CRI-Approach subscale scores and scores on the PDS, while a significant negative correlation between CRI-Avoidant subscale scores and PDS scores was also revealed.

The meaning of this pattern of results is unclear. These findings may suggest that participants with a more avoidant coping style were less influenced by social desirability than participants with a more approach-oriented coping style. Alternatively, participants may have reported in a socially undesirable manner on the avoidant coping measures, and in a socially desirable manner on the approach-oriented measures. The notion that participants reported in a socially desirable way on

the approach-oriented measures is consistent with previous research that suggested that acceptance or active coping with distress is perceived as socially desirable (Hayes et al., 2002). However, the suggestion that participants reported in a socially undesirable manner on the avoidant coping measures is less clear cut. Some research has suggested that if individuals with a repressive or avoidant coping style respond in a socially desirable way on some self-report items, they may be more prepared to answer in a less desirable manner on other items (Myers, 1998). Nevertheless, further research is required to systematically evaluate this prospect.

These findings are inconsistent with previous research that has found a positive association between repressive or avoidant coping style and socially desirable responding. Ashley and Holtgraves (2003) investigated this association utilising a primed memory task paradigm similar to that used in the present study. These researchers examined the relative contribution of the self-deception and impression management subscales of the PDS in the prediction of memory performance, and found that self-deception was a significant predictor of memory performance, while impression management did not predict memory performance. Ashley and Holtgraves concluded that self-deception was a better predictor of memory performance than either impression management or overall social desirability (self deception plus impression management), and that individuals with a repressive or avoidant coping style could be characterised more by self-deception than impression management. Regression analyses undertaken in the present study examined the influence of social desirability as a whole on memory task performance, then separated this construct into the self-deception and impression management subscales. On no occasion did these variables influence memory task performance. Overall, the memory task results

obtained in the present study failed to support the notion that individuals with an avoidant coping style could be characterised by a self-deceptive pattern of responding. One explanation for this pattern of results is that participants responded in a more socially undesirable manner on the avoidant coping questionnaires relative to the approach-oriented scales. However, this notion is inconsistent with past research. Further studies are needed to systematically evaluate and clarify the role of social desirability in repression or avoidant coping.

Factor analyses were undertaken to examine the factorial complexity of each of the coping measures utilised in the present study. These analyses revealed an unexpectedly large number of factors underlying each measure. These findings indicated that the fundamental structure of these measures, in terms of the coping constructs they assessed, was unclear. This lack of a clear factor structure may suggest that the definitions of the item domains underlying the construct(s) these measures purport to assess are partially inaccurate. In other words, in the case of the YRAI and the AAQ, the items that comprise these scales may not accurately constitute the construct of avoidant coping. Similarly, the items that comprise the CRI and the COPE may not accurately represent the constructs these scales claim to assess (approach vs. avoidance and problem-focused vs. emotion-focused coping respectively). Alternatively, the theory underlying the development of these scales may be inadequate or incomplete. These issues are considered in more detail below.

An additional hypothesis investigated in the present study was that female participants would report higher avoidance scores on the YRAI and the AAQ, thereby supporting the proposition of Gorman (1999) that females were socialised into using

avoidant coping strategies to a considerably greater degree than males. This hypothesis was not supported by the results of this study. No significant differences were obtained across the avoidant coping measures (the YRAI, AAQ, or CRI-Avoidant subscale). In contrast, female participants achieved significantly higher scores on the CRI-Approach subscale compared to males. This finding may suggest that female participants tended to use more approach-oriented coping than males, which is consistent with other research on sex differences in coping (Tamres, Janicki, & Helgeson, 2002). However, the overall pattern of non-significant results from the present study precludes firm conclusions from being drawn.

Summary of Findings

The primary aim of the present study was to examine the psychometric properties of two relatively new measures of avoidant coping, the YRAI and the AAQ. The YRAI demonstrated moderate internal consistency ($\alpha = .78$) and high test-retest reliability ($r = .89$). The YRAI displayed significant correlations with the AAQ, the CRI-Avoidant subscale, and the PANAS-NA scale. These findings provide support for the concurrent validity of the YRAI. However, correlations between the YRAI and the memory task variables failed to support the hypotheses of this study. In addition, a number of items were present that detracted from the internal consistency in the YRAI. Sequential removal of these items resulted in a modified, 31-item version of the measure, with internal consistency of .82. The modified version of the YRAI displayed no appreciable change in test-retest reliability, and a similar pattern of correlations with the other coping measures and memory task variables.

The AAQ also displayed moderate internal consistency ($\alpha = .76$) and high test-retest reliability ($r = .91$). Like the YRAI, the AAQ yielded significant correlations with the CRI-Avoidant subscale and the PANAS-NA scale, offering support for the concurrent validity of this measure. Correlations between the AAQ and memory task variables failed to support the hypotheses of the present study, and the AAQ also revealed a number of detractor items. Ten items were sequentially removed to maximise internal consistency, resulting in a modified, 22-item scale with internal consistency of .86. Like the YRAI, the modified AAQ demonstrated little change in test-retest reliability, and a comparable pattern of correlations with the other coping measures and memory task variables.

In summary, the YRAI and the AAQ displayed adequate test-retest reliability and moderate internal consistency. Some support for the concurrent validity of these measures was obtained; however, the expected associations between scores on these measures and memory task variables were not found. In addition, both measures contained a number of items that detracted from the overall internal consistency of the scales. Further limitations of the YRAI and the AAQ are presented below.

Whilst the primary measures of interest in the present study displayed psychometric inadequacies, the existing measures used to compare these scales were not without their limitations. For example, researchers have pointed out constraints related to the initial development of the COPE measure. Lyne and Roger (2000) argued that the initial method of factor extraction used by the scale developers (Carver et al., 1989) would have led to the extraction of an inflated number of factors. In addition, half of the original 13 subscales displayed alpha reliabilities below .70,

and all but three subscales produced test-retest reliabilities below .70, findings that are moderate by conventional standards (Nunnally & Bernstein, 1994). Various studies have suggested generally that the COPE be revised, and more specifically that a psychometrically stronger version of this measure would contain fewer items than the current 60-item scale (Lyne & Roger, 2000; Zuckerman & Gagne, 2003). However, replication of these findings is required before an empirically validated revised version of the COPE could be considered for widespread implementation in research and practice.

The CRI scale also has limitations. Firstly, this measure does not assess alcohol and drug use, which have been clearly demonstrated as common avoidant coping strategies (Litt et al., 2003). Additionally, Zuckerman & Gagne (2003) argued that the theoretical approach-avoidance distinction upon which the CRI was based limited the coverage of the measure. For example, the construct of emotional expression was widely cited in the coping literature as a common coping strategy or set of strategies. However, because emotional expression did not fit clearly into the approach-avoidance model of coping, the CRI did not assess this construct (Zuckerman & Gagne, 2003). The CRI has therefore been criticised for failing to assess the full domain of avoidant coping responses.

In addition to the hypotheses described above, this study aimed to address a number of issues related to the assessment of coping. These included the adequacy of the YRAI and the AAQ in directly evaluating the function of the coping strategies they purported to assess, the assessment of social support as a coping strategy or set of strategies, and the temporal variability of coping responses.

An issue raised earlier in this study related to the form versus function of coping strategies. The YRAI and AAQ measures purported to assess avoidant coping, thus the prediction was made that these scales would directly question the function of the cognitive and behavioural strategies they assessed. However, a marked disparity was evident between the underlying theory and assumptions of these measures, and their face validity. Whilst some items on the YRAI (such as "I drink alcohol to calm myself', and "When I'm upset, I eat to feel better") directly assessed the function of the coping strategy concerned, several items on these measures simply inferred function. Examples included "I take naps or sleep a lot during the day" and "I tend not to think about losses and disappointments". Similarly, the majority of items comprising the AAQ indirectly infer function. Examples include "You can't really control what you think and feel" and "Anxiety is bad". Taken at face value, these items represent opinions that a given individual may or may not have. In no way do these items actively assess that individual's use of avoidant coping strategies.

Despite the positive correlations obtained among the YRAI, AAQ and CRI-Avoidant subscale, the function of avoidance cannot be directly inferred from item endorsements. Put simply, a number of items on the YRAI and the AAQ cannot be conclusively shown to measure avoidant coping. This lack of face validity seriously compromises the construct validity of these measures. Because of this problem, the issue of the cognitive versus behavioural scale content of the YRAI and the AAQ, described earlier in the present study as a possible confound of construct validity, could not be meaningfully examined.

The problem of poor face validity is not limited to the YRAI and AAQ measures. The CRI also contains items from which the function of the behaviour or thought process in question must be inferred. Examples from this measure include "Did you spend more time in recreational activities?" and "Did you turn to work or other activities to help you manage things?". Benson and Hagtvet (1996) suggested that coping researchers had invested considerable time and effort in relating coping measures with each other at the expense of clarifying and specifically defining the domain of cognitive and behavioural processes that constitute the construct of interest. The YRAI and the AAQ provide clear examples of this definitional inadequacy, while the CRI also contains questionable items. Clear and vital goals for subsequent coping research are to thoroughly specify the cognitions and behaviours that comprise the avoidant coping domain, and to develop psychometric instruments that explicitly assess this domain.

A further point of inconsistency across the coping measures that include approach-oriented strategies (the COPE and the CRI) is related to the construct of social support. This construct is frequently debated in the coping literature due to difficulties in accurately defining the construct. These definitional problems include items from the COPE and the CRI. For example, the COPE divides social support into two dimensions, 'seeking instrumental social support' (a set of problem-focused coping strategies) and 'seeking emotional support' (a group of emotion-focused items). One item from the latter dimension reads "I get sympathy and understanding from someone". This type of item has been criticised as it does not refer to an action or cognitive process undertaken by the person experiencing the distress. Rather, it refers to a process that takes place outside the control of the individual. Such items

have been described as coping resources rather than coping responses, and some authors have suggested that for this reason, they should be omitted from measures of coping responses (De Ridder, 1997). Similar definitional problems are apparent in the CRI items. For example, items such as "Did you pray for guidance and/or strength?" are classified as 'Seeking Guidance and Support' (behavioural approach coping), but could also be considered avoidant. A non-religious individual could conceivably begin to pray for help as a last resort to relieve distress and take his/her mind off their problems rather than using this strategy in an active, problem-focused manner. In summary, the accurate definition of psychometric coping subscales and items has proved to be an elusive and problematic process. Further studies are required in order to clarify these definitional issues, and to promote the development of more accurate coping instruments.

Another issue related to the psychometric assessment of coping concerns the temporal variability of coping responses. As discussed previously, an individual's response to a stressful situation or experience can vary depending on the temporal relation between the stressor and the response. For example, a given individual may utilise different coping strategies in preparation for, and then following, a stressful event or situation. An examination of the YRAI and the AAQ indicated a lack of consideration of this issue. Similarly, the CRI and COPE scales also did not provide explicit guidelines on the time period under consideration. Such detail is of interest given research findings that people used different coping strategies before, during, and after a stressful event (Beehr & McGrath, 1996). By failing to specify a precise time period, it may be the case that the construct validity of these measures is further impaired. Researchers would be unable to conclusively state that the scores of

individuals who completed these measures could be meaningfully compared, as any comparisons would fail to account for the possibility that temporal variability had influenced responding. For example, an individual with an approach-oriented coping style may cope with a life stressor by planning ahead and taking steps to prepare for an upcoming aversive event. In contrast, a more avoidant individual may avoid contemplating the stressor until after it had occurred, and would therefore have to focus his or her efforts on the after-effects of the stressful event. Existing psychometric coping measures do not provide for an accurate examination of these differences. An important goal for future coping research and scale development should therefore be the explicit assessment of time frames for coping responses, to allow precise comparisons between individuals regarding their patterns of coping responses.

Limitations of the Present Study

Some limitations of the present study warrant consideration. One limitation of this study was the use of a student sample. This limits the generalisability of the reported findings and conclusions of this study, as student samples are typically younger and healthier than the general population, and may generally use more adaptive coping strategies than other groups (De Ridder, 1997). In addition, the sample used in the present study was recruited from one university, and the ethnicity of participants was not assessed. It is therefore unclear how the results of the present study would compare to findings with samples from different ethnic groups and geographical locations. To allow more generalisable conclusions to be made, future studies utilising the psychometric measures reviewed in this study should include

clinical samples, samples of young adults and the elderly, and samples from different cultures. This research would further enhance our understanding of the psychometric assessment of avoidant coping in general, and the potential utility and limitations of the YRAI and the AAQ in particular.

A second limitation of the present study was the use of a correlational design. This design precludes definitive conclusions regarding the relationships between the psychometric measures and variables under investigation, as any noteworthy correlations between measures do not irrefutably demonstrate that these measures assess similar (or different) constructs. Nevertheless, the pattern of results uncovered in the present study raises serious questions regarding the validity of the YRAI and the AAQ, which are unlikely to be solely a product of the experimental design.

A final limitation of the present study is that only self-report psychometric data were examined. Whilst the focus of this study was on the psychometric properties of coping measures, research has indicated that self-report data is susceptible to response biases such as social desirability (Beehr & McGrath, 1996). The construct validity of the YRAI and the AAQ may be further enhanced by comparing scores on these measures against more objective data, such as behavioural observations of coping by significant others. Still, the poor construct validity of these measures revealed in the present study makes this possibility unlikely.

Directions for Future Studies

The present study found a number of psychometric inadequacies within the YRAI and the AAQ. Future studies should aim to replicate these findings to allow stronger conclusions to be made regarding the utility and psychometric characteristics of these scales. These studies should include samples of older and young adults, and samples from diverse ethnic and geographical backgrounds. More fundamentally, future research must attempt to more accurately define the domain of avoidant coping, and develop psychometric instruments that thoroughly and precisely assess this domain.

Concluding Comments

The present study investigated the psychometric properties of two relatively new measures of avoidant coping, the Young-Rygh Avoidance Inventory and the Acceptance and Action Questionnaire. These measures displayed adequate test-retest reliability across a 34-day interval, and correlated in the expected direction with a more established measure of avoidant coping, the CRI-Avoidant subscale, and a measure of negative affect, the PANAS-NA scale. However, the YRAI and the AAQ failed to demonstrate the expected relationships with recall of negative autobiographical memories and social desirability. Past research suggested that avoidant coping was associated with impaired recall of negative memories, and with socially desirable responding. The present study failed to find evidence of these associations. In addition, consideration of the face validity of the YRAI and the AAQ indicated that these measures were seriously compromised in their ability to assess the

avoidant coping construct. In particular, a number of items across both measures required an inference to be made with regard to the function of the coping strategy they assessed. The content of these items did not explicitly indicate that item endorsement constituted avoidant coping. Also, the poor face validity of some items meant that the association between item endorsement and avoidant coping was extremely unclear. Relatedly, a number of items on both the YRAI and the AAQ detracted from the overall internal consistency of the measures. Modified versions of these scales were created with detractor items removed, however this procedure did not result in any appreciable improvements in the psychometric properties (apart from internal consistency) or patterns of intercorrelations between these measures and the other variables examined in this study. Overall, the YRAI and the AAQ failed to demonstrate their psychometric soundness, construct validity, and utility as measures of avoidant coping. Future studies should seek to more accurately define the construct of avoidant coping, and create new psychometric instruments based on this definition.

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Appendix A: Advertisement Template

HOW DO YOU

COPE WITH STRESS?

I am looking for volunteers to take part in a study on students' coping styles in stressful situations. The study involves completing two sets of questionnaires, one now and another in approx. 3 weeks, and possibly a brief memory task.

Everyone who participates in the study will go into a draw for:

five prizes of $50 cash!

If you would like to participate in the study, please help yourself to an envelope of questionnaires, and return the completed forms to the box provided when you've finished.

If you would like to find out more about the study, you can contact:

Gahan Joughin

Room: 473 in the Psychology Department (4th Floor)
Email: gjo29@student.canterbury.ac.nz

THANKS FOR YOUR HELP!

This study has been approved by the University of Canterbury Ethics committee.

Appendix B: Consent Form

Consent Form **Code #** _____

You are invited to take part in a study examining the ways in which students cope with life stresses. Everyone has different ways of coping with stressful events or situations, and sometimes the ways in which people cope can change over time or depending on the situation. Research has shown that some coping strategies tend to be more helpful than others in reducing a person's distress when in a stressful situation, and the aim of this study is to see how university students cope with stress. However, there are no 'right' or 'wrong' answers to the questions you will be asked to complete. The only requirement is that you answer all the questions as truthfully as possible. Your responses will be completely confidential. All raw data will be stored in a locked filing cabinet in a locked office for the duration of the study. At the end of the study, all raw data will be stored securely for five years, although all identifying information will be removed and destroyed. The only person who will have access to your personal information (name, age, and email address) during the study will be the experimenter. The experimenter or supervisors listed below will be happy to answer any concerns you may have regarding this project, and can be contacted at:

Experimenter: Gahan Joughin
Address: University of Canterbury Psychology Department, Room 473
Email: gjo29@student.canterbury.ac.nz
Home phone: (03) 332-7639

This project is being jointly supervised by:

Dr Richard Farmer: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 7196

Mr Neville Blampied: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 6199

Dr Roeline Kuijer: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 3401

This study has been approved by the University of Canterbury Ethics Committee.

I agree to take part in this research project on student's coping strategies. I understand all of the requirements of participating in the project, and that all of my data will be kept confidential. I also understand that I may withdraw from participation in this study at any time, with no questions asked.

Name:

Age:
Gender:
Telephone:
Email:

Signed:

Date:

Thank you for agreeing to participate in this study. Your participation is appreciated.

Appendix C: Information Sheet

INFORMATION SHEET

You are invited to take part in a study examining the ways in which students cope with life stresses. Everyone has different ways of coping with stressful events or situations, and sometimes the ways in which people cope can change over time or depending on the situation. Research has shown that some coping strategies tend to be more helpful than others in reducing a person's distress when in a stressful situation, and the aim of this study is to see how university students cope with stress. However, there are no 'right' or 'wrong' answers to the questions you will be asked to complete. The only requirement is that you answer all the questions as truthfully as possible.

This study is being conducted by Gahan Joughin in fulfilment of the requirements for a Master of Arts (M.A.) degree.

Purpose

The purpose of this study is to examine the coping styles of university students. It is hoped that this investigation will provide insight into how people cope with stress, with the ultimate goal that the information gathered will be used to devise and/or promote accurate measurement tools of coping.

Requirements

Participation in this study will involve completion of six questionnaires at two different times, with a one-month gap between them. The experimenter will contact you by email and/or telephone within two weeks of the second questionnaire administration to remind you of when you need to collect them and fill them out. It is very important that you complete every question on each questionnaire at both testing periods. This will ensure that the data is as accurate as possible, and that all conclusions drawn from this data are as meaningful as possible.

You may be selected (at random) to participate in a brief test within one week of completing the first set of questionnaires. This test will involve remembering past experiences, and will take approximately five minutes to complete.

Time Required

It is expected that completion of all six questionnaires will take approximately 45 minutes.

Confidentiality

All data collected for this study will be securely stored in a locked filing cabinet within a locked office. All consent forms will be securely stored in a separate location. Throughout the study, the only person who will have access to your personal details will be the experimenter. At the conclusion of this study, all identifying information will be destroyed, and all raw data will be securely stored for a period of five years. This data will then be destroyed.

Consequences of Participation

No adverse consequences of participating in this study are predicted. However, if at any time during participation in this study you experience distress of any kind, please contact Dr. Richard Farmer (phone 364-2987 ext. 7196 or email r.farmer@psyc.canterbury.ac.nz) for advice regarding medical, psychological or other forms of assistance. In addition, you can contact the Student Health Service, who can provide assistance with both medical and psychological issues.

If you have any questions or concerns regarding this study, please feel free to contact the following people:

Experimenter: Gahan Joughin
Address: University of Canterbury Psychology Department, Room 473
Email: gjo29@student.canterbury.ac.nz
Home phone: (03) 332-7639

This project is being jointly supervised by:

Dr Richard Farmer: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 7196

Mr Neville Blampied: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 6199

Dr Roeline Kuijer: University of Canterbury Psychology Department
Phone (03) 364-2987 ext. 3401

This study has been approved by the University of Canterbury Ethics Committee.

Your participation in this study is entirely voluntary. You may withdraw from participation at any time with no questions asked.

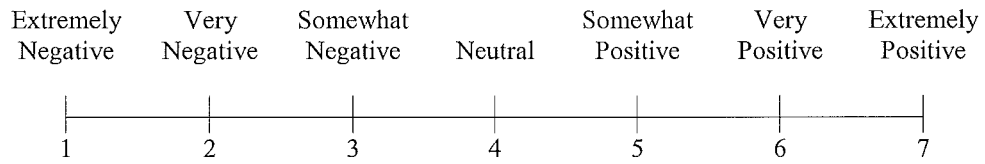
Thank you for agreeing to participate in this study. Your participation is appreciated.

Gahan Joughin

Appendix D: Memory Task Response Form

Code # _____

When directed to do so by the experimenter, please think back to your childhood and begin to write down as many memories associated with your childhood (i.e., took place prior to age 14) as possible. For each memory, you only need to write a brief word or phrase that indicates to you the nature of the memory. Then, indicate your age at the time the memory occurred and make a rating as to how pleasant or unpleasant the memory was, based on the scale provided immediately below. Continue recording your memories until the experimenter tells you to stop.



Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

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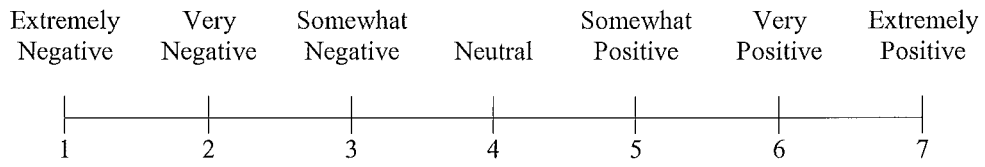
Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____

Memory: _____ Age: _____ Rating: _____



Memory: _____ Age: _____ Rating: _____

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Memory: _____ Age: _____ Rating: _____

Appendix E: PANAS with "At the Moment" Instructions

PANAS

Code # _____

Name:
Date:

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

1	**2**	**3**	**4**	**5**
very slightly or not at all	a little	moderately	quite a bit	extremely

_____ interested

_____ distressed

_____ excited

_____ upset

_____ strong

_____ guilty

_____ scared

_____ hostile

_____ enthusiastic

_____ proud

_____ irritable

_____ alert

_____ ashamed

_____ inspired

_____ nervous

_____ determined

_____ attentive

_____ jittery

_____ active

_____ afraid

Appendix F: Debrief Sheet

DEBRIEF SHEET

At the beginning of this study, you were told that the purpose of this study was to investigate students' coping styles. This is incorrect. The true purpose of the study was to investigate the psychometric properties of two of the questionnaires you filled out, the Young-Rygh Avoidance Inventory (YRAI) and the Acceptance and Action Questionnaire (AAQ). In other words, whether these questionnaires were measuring what they claim to measure (avoidant coping), and how well they were measuring it.

The term 'avoidant coping' refers to methods of dealing with stressful events or situations that involve directly avoiding the stressful event, or avoiding the negative emotions that result from the event using means such as alcohol, or trying to think about more positive or enjoyable events. Avoidant coping has been implicated as a maintaining factor in a number of different psychological disorders, and is measured using tests such as those you have just completed. However, you can be assured that your scores on these questionnaires will not be used for any form of diagnostic purpose. Rather, the information you have provided will be used to assess features of the tests themselves, such as their stability over time, and the strength of the relationship between scores on different tests.

The COPE questionnaire and the Coping Responses Inventory (CRI) were included in this study for the purpose of comparing two relatively new questionnaires (the YRAI and AAQ) with two established, 'tried and true' measures of coping. The Positive and Negative Affect Schedule (PANAS) was included in this study to compare participants' coping style with their emotional expression. One hypothesis of this study was that avoidant coping would be associated with more negative emotional expression than approach- or problem-focused coping, because when someone copes with a stressful event by avoiding it rather than actively attempting to solve it, the problem itself is still there and should therefore result in negative feelings. The Paulhus Deception Scales (BIDR) were included in this study to check whether participants were answering questions in a way that portrayed them in an overly positive light (which might suggest that their answers were not completely truthful).

For those of you that completed the memory task in addition to the questionnaires, the reason for doing this was to compare your scores on the questionnaires with a 'real life' measure of avoidance. It was hypothesised that participants who tended to avoid stressful situations would recall less negative memories compared to participants who did not avoid, as the former group by definition avoid almost all aspects of stressful situations, including memories of them.

The reason you were not told of the true nature of the study from the beginning is that this may have had an effect on the way in which you responded to the questions on each questionnaire. This may in turn have had an effect on the conclusions of the study. The rationale for this is that if research participants know what the experimenter is trying to achieve in his/her research, they may knowingly or inadvertently respond to the experiment in a way that provides the experimenter with the results he/she wants. This is in contrast to a study such as the one you have just

participated in, where there was little or no possibility of the participants knowing the true purpose of the study.

The deception involved in this study was vital in terms of protecting the meaningfulness of the results, and therefore conclusions, of the study. It is hoped that the results of this study will provide useful information regarding the usefulness of the aforementioned questionnaires, and that this information can be used to provide accurate assessment of individuals suffering from some form of psychological distress.

The experimenter apologises for any discomfort or distress this information may cause.

If you have any questions or concerns regarding the fact that deception was involved in this study, the experimenter or the supervisors listed below would be happy to discuss these with you. If you wish to withdraw your data from the study you may do so, with no questions asked.

Experimenter: Gahan Joughin
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